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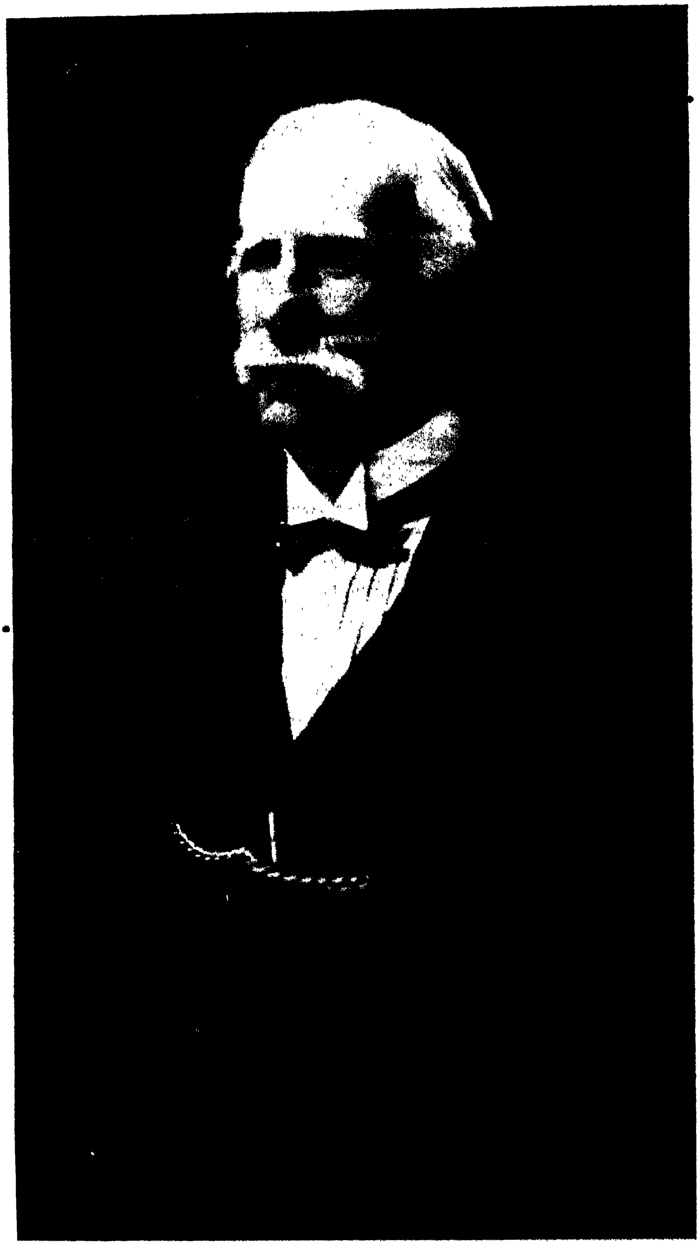

THE JOURNAL

OF THE

ROYAL AGRICULTURAL SOCIETY OF ENGLAND

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17 JUNE 193
I. PUSA

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" 4. 1843 ..	" IV. " I. (xi.) and II. (xii.)
" 5. 1844 ..	" V. " I. (xiii.) and II. (xiv.)
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JOURNAL
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THE EARL OF NORTHBROOK.

The Earl of Northbrook, who died on April 12, 1929, in his 79th year, had for a full generation been conspicuous in the active work of the Society. He became a member in 1880; in 1899 he was elected to the Council, and from that point onwards his association with the Society in its inner counsels and general administrative activities was intimate, energetic and fruitful of effective service. His valuable work for the Society was recognised by his election to the positions of Vice-President in 1905, and Trustee in 1911; and to the supreme office of President in 1913. Every office Lord Northbrook filled during his long and distinguished connection with the Society, brought into prominence qualities amply adequate for the duties to be performed, and at no time did he exhibit his competence for responsible office more clearly than in his year of Presidency. The Show was held at Bristol in his year of office, and all who were brought into contact with him in any capacity in 1913 will remember with pleasure and appreciation the efficiency with which the heavy responsibilities and arduous duties of office were accepted, grasped and discharged. His long and intimate knowledge of affairs affecting the Society in all its aspects qualified him in a peculiar degree to undertake the duties that devolve upon the President, and throughout his year in the Chair Lord Northbrook exhibited afresh the accomplishments and virtues that had already won for him the respect and confidence of his colleagues.

The position of President naturally and rightly tends to overshadow other offices in the Society, but anyone familiar with the operations of the institution recognises that few can aspire to that high office without passing through less conspicuous spheres of active work, and many after, as well as before, "passing the Chair" devote much of their time and knowledge of affairs to the general work of the Society. Lord Northbrook earned the distinction the Council and Members conferred upon him in 1913—the highest in their gift—by sustained services in various offices of fundamental importance. From the time he was elected to the Council, he took an active part in the inner and general work of the Society, and became especially identified with the Veterinary Committee, of which he was Chairman from 1905 to 1926, and the Selection and General Purposes Committee, serving as Chairman from 1927. He had also been a Steward of Stock from 1902 to 1905, and there were few branches of the Society's work upon which his ripe knowledge and wise discretion had not been impressively reflected.

His colleagues had marked their appreciation of the work and wisdom of the late Earl in different classes of supplementary or exceptional service. He was elected Chairman of the Tuberculosis (Animals) Committee formed in December, 1907, a position in which his familiarity with animal diseases and veterinary studies and attainments was advantageously exhibited.

In the early years of the Great War, when it was decided that the Society should institute a Fund to help the Allies on the Continent to replenish the areas devastated by the war, Lord Northbrook was appointed Chairman of the Executive Committee of the Agricultural Relief of Allies Fund. In this important office he brought to bear qualities of a character essential for a difficult and delicate task, and his work will remain on record with that of his contemporaries in responsible office, as contributing to a result that far exceeded the anticipations of the most optimistic. It will ever redound to the credit of the Society and its supporters that the modest £50,000 aimed at in the first instance rose to more than £250,000 in the final issue. It will be remembered that in furtherance of this scheme Lord Northbrook, with Mr. Adeane, the Hon. Treasurer of the Fund, and the late Mr. Anderson Graham, visited the Western French Front in the summer of 1915.

In less prominent capacities the Earl of Northbrook identified himself usefully with the activities of the Society. For many years he and the Duke of Devonshire acted as stewards in the Shorthorn ring at the Shows. In a task of this kind he was particularly happy, because he had always been a keen admirer of the Shorthorn breed. He did not often exhibit, especially in later years, but his "eye for a Shorthorn" never dimmed, and his interest in the breed continued until the end. Even after he had abandoned the duties of steward he was a close observer of the proceedings in the Shorthorn ring. His exceptional admiration of the Shorthorn breed was explained and exemplified by the existence of the herd he owned at his Home Farm, Stratton, Micheldever Station, Hampshire, and which was founded as long ago as 1884.

Although his comprehensive record of important public work was associated more or less intimately with the Royal Agricultural Society, Lord Northbrook was active in other spheres and in connection with other and kindred institutions. He had been President of the Smithfield Club, the Shorthorn Society, the Royal Counties Agricultural Society and other societies, while he took an active part in county work of all kinds, educational and administrative.

It will be felt that through the death of the Earl of Northbrook there has passed from the world of Agriculture, a figure of outstanding eminence and strength. His presence at a meeting or in a council of any character pertaining to the industry and allied questions, was regarded as a source of power, authority and security. He had won the confidence of his contemporaries so completely—and so worthily—that they considered their position the stronger and the prospects of a successful issue to their efforts the brighter when Lord Northbrook was present to guide and advise them during conferences or private negotiations. His knowledge of affairs was wide, his vision comprehensive, and he had the faculty for arriving early and definitely at a correct perspective in delicate and difficult matters. The loss the Society has sustained by the death of Lord Northbrook is shared by a great number of agricultural and live stock organisations throughout the land. The industry and the nation are the poorer without him, but all who came into contact with him in any capacity will remember with gratitude the good fortune that brought them into touch with a nobleman of his dignity, manly bearing and commanding sense of public service.

C. J. B. M.

THE HON. E. G. STRUTT.

THE death of the Hon. Edward Gerald Strutt on March 8, 1930, was generally regretted. Mr. Strutt had attained the age of 75 years, but until within a few months of his death he was still active and prominent in agricultural work and counsels. The Royal Agricultural Society had experienced the benefit of Mr. Strutt's collaboration as a member of council for seven years, and he retired from the council only in 1928, owing to advancing years and the multiplication of calls upon his time and energies in other directions. His death will be widely and sincerely lamented by the members as well as by his former colleagues on the council.

The work Mr. Strutt accomplished in connection with the society, appropriate and helpful as it was, constituted only a part of the service he rendered to agriculture in a public and representative respect. During his long and intimate association with the industry, he had filled various positions of responsibility and authority. It will be remembered that during the War he was perhaps the most trusted of advisers on matters relating to the land and its utilisation for producing the food that was then so urgently needed, and so suitably valued. When Lord Ernle was at the Board of Agriculture it was known that Mr. Strutt was his close and competent helper in matters of fundamental importance to the country in those critical years. His qualifications for work of the kind were exceptional in that he combined, as few, if any, of his contemporaries did, a thorough understanding of both practice and science and, what is still more rare, the proper relationship of the two in making for efficiency in agricultural production. The motto of the Royal Agricultural Society was never better exemplified in actual achievement than in the agricultural record of Mr. Edward Strutt. In addition to his memorable and valuable collaboration with the Board of Agriculture, Mr. Strutt was a force for action and progress along right lines in many phases and through many organisations, and his death leaves the industry, and many of its representative institutions, decidedly the poorer.

The outstanding value of Mr. Strutt's counsel was due to the exceptional association of personal perspicacity and actual farming experience. In his busy life, farming on an extensive and comprehensive scale occupied much of his time, although, as the senior member of the firm of Strutt and Parker, he was also prominent in the business of land agency. His farming career, in conjunction with his record of long and unostentatious public service, is of chief interest to members of the Royal Agricultural Society. The farms owned and occupied by the family—Mr. Strutt was a younger brother of the late Lord Rayleigh, the famous chemist—extend to many thousands of acres and the system of farming adopted was, and is, marked by exceptional intelligence and understanding. It is recognised that Mr. Edward Strutt was the leading power in devising and developing the scheme that has made the Rayleigh Farms famous for resource and efficiency. He was ever a watchful student of progressive husbandry, and equally an observant man of business, and hence there emerged under his shrewd direction one of the most remarkable farming enterprises in the country. The knowledge acquired on the land and in the management of associated pursuits radiated clearly and helpfully from his counsel and won for it respect and authority corresponding to its genuine worth. The diversified character of the farming testified to the intelligence with which the dominating influences of soil and climate were interpreted in actual practice. The land at Terling is typical of that of the county of Essex in inconsistency, and it demands the greatest elasticity of mind and method to make it fulfil its purpose to the fullest advantage. Mr. Strutt never claimed to be complete master of his environment, but his natural modesty would have prevented him from even hinting at his attainments in any case; if, however, he, like others, had often to bow to the overruling forces of soil and climate, he achieved much as a result of personal understanding and skill. Knowing the supreme value of wheat on land of the kind he cultivated, he was insistent upon the importance as a national asset of increasing the growing of that crop. The possible substitutes could go only a little way to atone for neglect of the premier cereal and, expanding his vision beyond the confines of his own county, he never ceased to impress upon Governments and other bodies the fundamental importance of wheat production as a staple pursuit.

At the eventful juncture in Essex farming when milk largely displaced wheat in the attentions of farmers, Mr. Strutt was one of the first to perceive the wisdom, indeed the necessity, of turning attention to the newer market. By degrees the Terling herds increased until as many as 1,100 cows were in milk at one time, and the standards of production and general results were in keeping with the proportions of the herds. The system of management also reflected keen business supervision. London was the principal centre for disposing of the milk, but during the summer months an adequate proportion of the produce was diverted to the holiday resorts on the East coast, and in this way the outlets for the milk and other produce were developed and utilised to advantage. Although the conditions were not always encouraging, Mr. Strutt was ever ready to welcome, to test, and to encourage modern improvements in any direction. Sugar beet received his support in personal advocacy and example, and the numerous other innovations at no time appealed to him in vain. The name of Edward Strutt will live in agricultural history as one of the most prominent and exemplary agriculturists of his time.

C. J. B. M.

MR. CHARLES COLTMAN-ROGERS.

The death of Mr. Charles Coltman-Rogers, of Stanage Park, Radnorshire, on May 21, 1929, at the age of 75 years, was the cause of sincere regret to all who knew him and especially to members of council who had been brought into close contact with him. Mr. Coltman-Rogers had been a member of the Society since 1883, was elected to the Council in 1897, and became a Vice-President in 1918, and from an early period of his association with the Society, he had identified himself particularly with botanical and zoological subjects and was chairman of the Botanical and Zoological Committee for many years till the time of his death.

Mr. Coltman-Rogers went from Eton to Oxford where he was a contemporary of Cecil Rhodes—in fact, sharing rooms with him—and there a friendship was formed between the two that continued until the death of the great Empire builder. It was a source of deep satisfaction to Mr. Coltman-Rogers that Cecil Rhodes used often to see him when he was in England, and that the old times at Oxford were recalled by both with refreshing eagerness. Mr. Coltman-Rogers' interest in, and knowledge of, the Empire were more intimate than might have been gleaned or inspired by frequent intercourse with even so great a pioneer as Rhodes. He travelled round the world and was both an observant and enlightened visitor to the different countries, and, as was to be expected, paid especial attention to overseas parts of the Empire. He added to his love of travel the qualities of a keen sportsman, especially hunting and shooting, while he also attained considerable success in musical circles.

But the R.A.S.E. knew him best, and will remember him mainly, on account of his indomitable work on behalf of forestry. Mr. Coltman-Rogers was a true lover of the country in its natural beauty and richness. The wide variety of trees and shrubs with which this country and others are endowed appealed to him as to few others, and he spent a great part of his active life in the study of arboriculture in its broadest aspects. His interest in this class of work was not academic, but of a thoroughly practical character, and the woods, plantations, etc., on his own estate in Radnorshire have long been a source of attraction for students of forestry and practical foresters. The whole of his planting and culture was planned on a systematic scale, and records of the scheme made by himself and carefully preserved in intelligible form, afford testimony to the diligence and knowledge with which the study of afforestation was pursued and practised at Stanage Park. The R.A.S.E. derived full benefit from the experiences at Stanage, for the owner was ever vigilant and energetic in developing the forestry side of the Society's work. He was for many years the organiser of the Plantations and Forestry Competitions, and devoted much time and attention to ensure the success of this branch of the work in the country and at the Show. Mr. Coltman-Rogers was the author of a book on Conifers published by John Murray. He had been Lord-Lieutenant of Radnorshire since 1922, and was actively connected with every form of public work in his county and district. Among other offices he had held that of Chairman of the Radnor C.C. without a break since 1896. He was at his death Senior C.C. Chairman of Great Britain, Chairman of the County Territorial Association since its inception, and Chairman of the Local Education Authority and Standing Joint Committee for many years.

SIR EDWARD CURRE, BART.

THE death of Col. Sir Edward Curre, Bart., of Itton Court, Chepstow, Monmouthshire, which occurred on January 26, 1930, at the age of 74, will be deeply regretted by his colleagues on the council and by members. He had been a member of council since 1917 and in that capacity always manifested a keen, practical interest in the welfare of the Society. His presence at meetings was appreciated on account of the sound advice he proved himself competent to give on many matters, and also because of his frank, breezy manner in mixing with his fellows and in expressing his views. He was recognised as belonging to the best type of country landowner and gentleman, and he will be greatly missed at the council meetings.

Sir Edward Curre was devoted to the land, and farming was included among the forms of rural activity he pursued and enjoyed. Some time ago he established a herd of Shorthorn cattle, and at the time of his death the Itton herd had attained sound establishment and promised to become one of the leading centres of select breeding and collective merit in the Western counties.

Sir Edward took a prominent part in county and local work. He was an original Member of the Monmouthshire County Council, and although he never wasted time in talking whether in Committee or at Council Meetings, when he spoke he was always listened to with interest and respect. There were no flourishes of oratory about him, but he had a great aptitude for speaking to the point with common-sense arguments and the knowledge of his subject. In his turn he became Chairman of the Council and was for many years Chairman of the Agricultural Committee. His good humour and tact, coupled with patience and a great capability of seeing both sides of a question, made him an excellent and acceptable chairman. He was also Chairman of the Chepstow R. D. Council, where the same qualities made him a popular leader for many years.

As a sportsman Sir Edward Curre had few equals. He was a fine shot; in his younger days he was in the front rank of polo players and no mean cricketer, but it was in hunting and the breeding of hounds that he excelled. He had at Itton one of the best West Country packs. His ambition was to get a white pack, and at the time of his death he had practically succeeded. He was a very keen gardener and took a keen interest in the laying out and the improvement of the grounds at Itton Court. His natural rock garden was one of the finest in the district.

Not only his own tenants, but all others in the district where he resided, held him in affectionate regard. He had the great faculty of knowing all the people round him and all about them, and never a man, woman or child passed him without a cheery greeting and a word of inquiry or sympathy when he knew it was needed.

PROFESSOR T. B. WOOD.

The death of Professor T. B. Wood, of Cambridge, on November 6, 1929, was widely and deeply regretted in all agricultural circles. It was known for some time previously that Professor Wood was in a poor state of health, and his colleagues from Cambridge brought disquieting news of his condition when they attended the November committee and council meetings of the society. It was not expected, however, that his death was close at hand, and intimation that he passed away on the day of the council meeting caused a shock to his numerous friends in Cambridge and elsewhere.

Professor Thomas Barlow Wood, who was born in 1869, was the son of Mr. B. D. Wood, of Field Dalling, Holt, Norfolk, and was of true country origin and upbringing. It was natural that he should have early manifested a preference for agricultural studies, and it is known that his devotion to the Cambridge School of Agriculture, of which he was head for more than twenty-two years, after being intimately associated with it from its inception, prevented his appointment to a position of a less exacting and more remunerative nature. But Cambridge and the work there were close to his heart and induced him to resist temptation to move to another sphere. It has been fortunate for agriculture and agricultural education that Cambridge continued to retain and utilise the services of Professor Wood. He had been one of the outstanding figures and influences in progressive agricultural science and practice for many years and his death creates a definite blank.

The Royal Agricultural Society showed its confidence in Professor Wood as an enlightened and balanced authority on agricultural affairs by asking him less than a year before his death to undertake the revision of Fream's *Elements of Agriculture*, the textbook published by the Society. It is understood that Professor Wood had largely completed the plans for this responsible work when the final illness overtook him, but it must now be left to another to finish a task of considerable magnitude and importance which it was felt by the Journal and Education Committee would have been in safe and competent hands with Professor Wood in charge. The Society, therefore, is in a position to share in a special sense the general regret occasioned by the death of so prominent and trusted an agricultural leader, student, and teacher.

FARM ACCOUNTS.

IT is not many years ago that the application of any form of accountancy to agriculture was considered by most people unorthodox if not pedantic. Farming had always been regarded as an "art" or as a "mode of life" rather than as a commercial undertaking. This conception, however, was a comparatively modern one, dating no doubt from the days of prosperity of the late eighteenth and mid-nineteenth centuries [1] and from the rise of the "yeoman-farmers" of England. If we go back to manorial times we find that many estates were carried on in a most business-like manner, and that detailed records and accounts were required from the stewards, reeves, and bailiffs.[2]

In the early years of the present century, increasing attention began to be paid to farm accountancy. The supposed antipathy of the farmer towards book-keeping of any kind became the subject of considerable criticism and discussion, well illustrated by a conversation recorded rather later in *Punch* between an earnest small-holder and a farmer, which ran something as follows :—

SMALL-HOLDER : But if you don't keep accounts, how do you know if your hens are paying ?

FARMER : I've got no patience with this nonsense about book-keeping. If the hens be laying, there's nothing to worry about ; if they're not, there's nothing to put in the book.

Then came the war period, during which attempts were made for almost the first time to arrive at an exact determination of the costs of production of foodstuffs throughout the country during all stages from the farm to the consumer's table. Subsequent deliberations still further emphasised the lack and the need for reliable figures (*a*), though when Mr. Castell Wrey read a paper at the Farmers' Club in 1921 urging the keeping of farm accounts (*b*), there was hardly a speaker who did not oppose him. In the meantime several writers had been pleading the importance of accountancy in farm management (*c*), and an Institute for Research in Agricultural Economics had been founded in 1914. This was followed after the war by the appointment of economic investigators at several agricultural colleges, notably Cambridge and Wye, and the economic aspects of the industry have now become a regular part of the research and advisory activities at these and other educational centres

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[1] But the keeping of accounts was urged by J. Coleman in *R.A.S.E. Journal* for 1858.

[2] See, for example, *Lives of the Berkeleys*, Vol. I, p. 140. This family in the fourteenth century farmed on a very big scale, having no less than seventy-five manors in hand and stocked with their own oxen, cows, sheep and swine.

One of the principal methods of investigation has been to persuade farmers to keep prime records of their operations which have been available for analysis on a uniform system by the investigator. At the close of the year the farmer receives in return complete and detailed cost accounts, together with a report and observations regarding any special point of interest There must now be a very large number of farms being costed in this way, in addition to those where the owner himself carries out the work. But hitherto very few have been published It is obvious that any value in such work, apart from that reaped by the individual concerned, must depend on the carefu study of a very large mass of data.

A beginning has been made in the case of two isolated branches of farming, namely, milk-production (*d*) and sugar beet (*e*). In both these cases the amount of material has been adequate for serious consideration. Isolated reports have also been made of horse labour (*f*), grazing (*g*), farmyard manure (*h*) corn-growing (*i*), poultry-farming (*j*), fruit-farming (*k*), labour (*l*) and of an agricultural estate (*m*).

Detailed surveys have been made at Cambridge of a few farms for a period of four years (*n*), and attempts have been made from time to time to deal with the economics of the industry by an analysis of the main features of production and expenditure over a larger number of farms (*o*). Finally, an admirable treatise on the whole question of farm accounts has recently been published by J. S. King, advisory officer in Farm Economics at the Board of Agriculture for Scotland (*p*).

The foregoing brief survey of the published literature of farm costings illustrates how meagre is the information as yet at our disposal, though many institutes and individuals must have accumulated a considerable mass of material.[1] Even where this is the case, however, the difficulties of drawing conclusions of real practical value from the material are very great, and the instinctive realisation of this fact, rather than any unreasoning conservatism, is responsible for much of the farmer's lack of interest.

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[1] *Note.*—Since this article was written, several additional publications have been issued which are not included in the above list.

Since the writer is intimately connected with farms in East Anglia where accounts have been kept for over forty years, he may perhaps be absolved from any charge of retrogression if he here surveys some of these difficulties as they appear to one engaged in commercial farming.[1] The aim is by no means to discourage the keeping of farm accounts, but rather to encourage the practice by a frank discussion of the somewhat exaggerated claims that are sometimes made, and by attempting to dissociate, from the purely practical standpoint, the useful from the superfluous.

It is necessary, at the outset, to make it perfectly clear that in the following remarks the matter is regarded solely from the practical standpoint of commercial farm management. From the point of view of research no records and no study of figures is superfluous: all go to increase the sum-total of knowledge on which deductions and practice must ultimately depend. To take an illustration: it is useful and admirable for men to spend their lives acquiring all possible records and knowledge of the life and habits of the common house-fly. Upon the sum-total of such records, some of which will turn out to be material and some immaterial, may be based a theory leading to the complete control of this insect pest. But the householder, faced from year to year with a plague of house-flies, desires to approach the matter from another and more immediate aspect: he wants guidance as to whether, in the present state of knowledge, gauze curtains, fly-papers, poison traps, blue walls or refuse-control can best be recommended. It is from this latter standpoint alone that the subject of farm accounts is approached.

Mr. J. S. King, in the book already referred to (*p*), has been the first agricultural economist bravely to point out that the analysed results of cost accounts, in the form they have recently come to be presented, cannot give a great deal of direct or practical help to the farmer. "The attachment of arbitrary values to the by-products which appear at all stages in farming processes introduces an element of unreality" into all such accounts, and "it would appear to be somewhat difficult to justify a claim that the actual net result in every department is revealed by the analytical method, or that the error introduced by the approximations involved is in any event negligible."

Just as occurred in the early days of other branches of agricultural science, so in account-keeping the enthusiasm of the pioneers has led to some overstatement of claims. Those who urge that cost accounts enable the farmer at a glance to see which departments of his farm are not paying and adjust his operations accordingly, are losing sight of the complexity of the case.

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[1] On these farms, the property of Lord Rayleigh and of Strutt & Parker (Farms), Ltd., account-keeping was introduced by the Hon. Edward Strutt in 1882, who in this, as in many other directions, was the pioneer of modern agricultural methods.

DUAL PURPOSE OF CROP-PRODUCTION.

In the first instance, the processes of crop-production are not discontinuous, though from time to time certain products reach their finished state and are sold or otherwise disposed of. In industrial manufacture, these would represent the end products of a certain quantity of raw material which would thereby be used up, and the cost can be easily determined by adding together the costs of raw material and handling. But in the growing of crops, the only raw material which is really used up is the seed. All other materials and all the work and operations will have a twofold influence, reacting firstly on the growing crop, and secondly to a greater or less extent on the general condition and fertility of the land. On the latter will depend the crops of the future. This twofold aim of all cultural operations—to grow a crop and maintain the fertility of the land—represents an inevitable difficulty in determining the cost of any particular crop, and one which is not solved by the method of carrying forward part of the costs of farmyard manure and of cleaning crops to the remainder of the rotation. Take for example wheat-growing. Here are the costs on the same farm for the same year, after allowing for the carry-forward of part costs of farmyard manure :—

COST PER ACRE OF WHEAT, 1927.

(17 FIELDS ON THE SAME FARM.)

Acres	Previous Crop	Remarks	Cost		
			£	s.	d.
10½	Peas	Dunged, 1926	13	4	0
9½	Wheat	„ „	12	10	9
15	Barley	„ 1925	12	9	0
11	Wheat	„ 1926	11	11	4
18½	S. Oats	„ 1925	11	9	4
10	Clover	Folded—seed	11	5	0
8	Wheat	Many cultivations	11	4	8
20	Wheat	Dunged, 1926	11	2	11
14	Barley	„ 1925	10	16	4
14	Tares	Folded	10	12	8
13	S. Oats	Dunged, 1925	10	6	7
10½	Potatoes	„ 1926	10	6	3
19½	Peas	3 acres dunged	10	3	0
11	Clover	Cut—seed	10	2	9
25½	Potatoes	Dunged, 1926	9	12	8
23	Clover and maize	12 acres folded	9	3	11
12	Peas	Cut—seed	9	0	0
245 acres					

If such figures mean anything at all, they must indicate some adverse criticism or warning regarding wheat production on the first field as compared with the last. The finished product in this case has cost 47 per cent. more to produce, a degree of variation that would cause consternation in a manufacturing process. But there is no practical error to correct, no practical lesson to learn, since at any given moment one is concerned, not with what has been spent on any field in the past, but on how at that moment one can most economically turn to advantage the resources of man, horses, land and stock, within the range of the alternatives that are available.

LIMIT OF ALTERNATIVES.

This brings us to the second weakness of the cost accounting of crops as an aid to practical management—the limit of alternatives. It is not the absolute cost of a crop that matters, but its profitableness as compared to any alternative crop that the farmer could substitute, without disturbing his balance of crops and stock, his seasonal requirements of labour, and his plans for cleaning and maintaining the fertility of the land. Thus the growing of sugar beet may show a direct loss in his accounts, but if the only alternative which fulfilled his particular requirements on that particular land and farm was to grow mangold at an even greater loss, then his sugar beet crop represents a profitable move. Again, on the recognised principles of accountancy it is almost impossible to grow a cereal crop without loss after a fallow or heavy folding with sheep. The land may have been fallowed because of neglect or a bad season two years previously, but if this adds even 20 per cent. on to the cost of the current year's wheat-growing, then the figures are definitely misleading as a practical guide without a full explanation of the circumstances, and if this has to be given, then the figures themselves are misleading.

INTERDEPENDENCE OF CROPS AND STOCK.

But perhaps the most serious cause of weakness in crop accounts is the interdependence existing in a varying degree on every farm between crops and stock. Attempts have been made to classify farms according to whether their primary concern is stock-produce or soil-produce—whether their crops are grown to provide foodstuffs for the stock, or whether the stock is kept to consume the coarse fodder grown on the farm and to maintain the fertility of the land. But any such division is purely theoretical, and has only been introduced to justify the grave error of charging home-grown foodstuffs at their cost of production. In the writer's opinion no factor has cast more discredit on farm accounts or been more responsible for the general apathy, if not antipathy, of practical farmers than the introduction of this misleading conception. The arguments in its favour are well-known [1]:—

> "There is only one possible basis of value (of home-grown foodstuffs), namely, the cost to the farmer, but, just as in other valuations, the fact that there are no records of cost drives the farmer to use other comparisons, and the market value, or in rare cases a scientific unit, such as the starch equivalent, is substituted for the sum which the farmer has actually paid. As a matter of fact, the bulky feeding-stuffs usually produced and consumed at home rarely have any market value at all. A market value is one that can be realised in the market. Thus wheat, beef, and other commodities have clearly market value, because they are always saleable, but if all the farmers in the country decided to sell their mangolds they would find that the market for mangolds is non-existent, and that the prices quoted in market reports represent a few deals to satisfy an infinitesimal demand. The same is true of straw, and in a slightly less degree of hay.
>
> "Even if the difficulty of fixing the market prices of certain products, such as turnips, or even hay, be ignored, and if it be assumed that there is a free market in such things, a fuller consideration of what the farmer really does in feeding them to his stock will show how inapplicable such values are to his case. The market value of an article is the figure at which a willing buyer and a willing seller can agree to do business. The farmer who contends that he is justified in 'selling' his roots or hay to his stock is selling them, in point of fact, to himself, and seeing that there is only one party to the transaction, there can be no market, and consequently no market price. In the majority of cases each of these things is grown because the farmer has need of them in the production of the article or articles of food towards which his management is directed. If he could buy them more cheaply than he can grow them he would surely do so, but to regard himself as a merchant instead of as a manufacturer, and then to trade with one department of his farm against another, is to involve himself in paper transactions which have no foundation in fact, and which may lead to disastrous conclusions. Some years ago a well-known firm of manure manufacturers found themselves handicapped in the production of superphosphate by the high price of sulphuric acid. To meet this they decided to put down a sulphuric acid plant, and found that the cost of their 'super' was immediately reduced. Had they followed the principle of valuing the acid at its market value, their superphosphate would still have appeared to be an unproductive line, and the only conclusion to be drawn from their books would have been that they should give up manure manufacturing and concentrate their efforts on the production of acid. The same argument holds good in the case, so often quoted, of the price of hay and the cost of milk."

I am bound to say that in my opinion the misconception of facts lies with those who put forward such arguments as these. In the case of the manure manufacturer, if after charging his acid at a price at which he could sell it, he still made a loss on the manufacture of superphosphate, then the suggested conclusion that he should give it up and concentrate on the production of acid would be perfectly correct. The relevant factor in this case, however, which is not mentioned, is that presumably he already had in existence a plant for manufacturing superphosphate and to scrap this would have entailed capital loss. He could therefore economically use the profit from the manufacture of acid to keep this working. Similarly the man with a herd of cows and a milk contract may find that by feeding his hay in a year when he could get a very high price for it, he is making a loss per gallon on the milk produced (in other words, he is selling his hay to his cows at less than market price). But it may well pay him to do so rather than discard his dairy herd.

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[1] *The Determination of Farming Costs*, by C. S. Orwin, pp. 36 and 37.

To realise the inherent error in this conception, one has only to take a few extreme cases. A field of mangold is grown for the cows at £10 per acre, which produces only 1 ton to the acre. If these mangolds must be charged to the cows at £10 per ton, milk production for the whole winter shows a heavy loss. In spite of it, the cows themselves may have been well managed and have given good yields. Or again, a favourable spell in June allows of hay being produced for 30*s.* per ton. It is worth double. The cows may have been grossly mismanaged, but this cheap food results in their showing a heavy profit. Of what value are such results to the practical man who looks to his accounts to give him guidance in management?

There is no need to enter into the argument regarding market prices or the fact that if all roots and straw were offered for sale they would be unsaleable.[1] There is published monthly in the *Journal of the Ministry of Agriculture* the feeding value of home-grown produce on the farm, *i.e.*, the actual value to the consuming animals of hay, straw, roots, etc., as compared with current prices of purchasable foodstuffs supplying the same type of nutrients. In my opinion this is the only fair basis of valuation.

STOCK ACCOUNTS.

I have entered rather fully into this question of pricing home-grown foodstuffs, because such items bulk large in any accounts kept of livestock on the farm. In the foregoing pages attention has been drawn to some of the disadvantages of crop accounts as providing practical guidance to the farmer: I now wish, with all the emphasis at my command, to call equal attention to the direct benefit which accrues by the keeping of stock accounts. Most of the weaknesses of crop accounts are absent, and the whole basis of trading is different. The land is ever with us: we have to retrieve mistakes or bad seasons of the past and maintain it in a condition to yield maximum returns in the future, at the same time as we grow crops for the present. Although the same is true to a certain extent of permanent breeding flocks and herds, there is this difference—that we can replace and renew. Fatting and store stock, moreover, we can buy or sell entirely as we choose.

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[1] There is no proposal to offer all roots for sale, so this conception is entirely theoretical. It is worth pointing out, however, that if all manufacturers simultaneously ceased to convert any given raw material (such as roots or cotton) into the finished products (such as milk or cotton thread), the raw material would automatically cease to be of value, for there would be no demand. Even as a theoretical conception, therefore, there is little to be said for it.

Stock accounts enable us to ascertain with accuracy week by week what our stock are costing to keep, and what has been their total cost to date. No surer road to economy on the farm exists than this, and one might even venture the opinion that at least half of those who do not keep such records, and more particularly those who do not accurately record the home-produced foodstuffs consumed, would effect immediate cash savings by so doing.

But to bear full fruit such records must fulfil two conditions, both of which are often overlooked. They must be in such a form as to suit the mentality of those who use them, and they must be continuously up to date. On many an estate, for example, elaborate accounts are kept, but the farm manager or bailiff really responsible for the day-to-day routine is found to take little interest in them. This is often because they are not presented in a form in which those unaccustomed to accountancy can grasp the essential features, and it seems to be forgotten that it is more important to have accounts used than it is to keep them. Secondly, it is essential that the position up to date is always ascertainable and can be seen at a glance without abstruse calculations. It is easy to devise forms which satisfy these two requirements.

It may be convenient here to summarise what has been written in the foregoing pages, repeating at the outset that I am here dealing with farm accounts as an aid to the farmer in practical administration and not with the collection of data for economic study and research. I have endeavoured to show that the lack of interest exhibited by most practical farmers does not originate from mere ignorance of the advantages of accountancy, but rather from instinctive knowledge of the drawbacks from which it inevitably suffers when applied to agriculture. Farming is a continuous process, and it is impossible to separate the costs of one crop from another (or, to put it another way, the costs of growing a crop from the costs of maintaining the fertility of the soil) except by the introduction of arbitrary approximations which nullify the result. It is little use introducing figures unless they themselves tell a true and fairly complete story: if they have to be accompanied by such explanations as may modify them by 30, 40, and 50 per cent., the figures themselves may as well be omitted. Furthermore, the interdependence of individual crops and also individual cultural operations with livestock, with the labour supply, and with the general policy of the farm, renders many of the figures meaningless. To plough a field a second time when there is little else to do may be a perfectly wise operation—at other times it may be equally unwise: yet cost figures can show no such distinction.

Lastly it may be added here that the variations due to weather and season often make comparisons even on the same farm of no practical administrative value. To illustrate this I will give here the highest and lowest field costs of wheat on a group of farms under the same management[1] for 1928.

Costs per Acre of Wheat.

Farm.	Highest.		Lowest.		Average for farm.	
1928.	£	s.	£	s.	£	s.
F.	12	8	9	14	10	18
T. H.	10	15	8	16	9	15
F. H.	14	9	9	2	10	6
T.	11	6	9	0	10	2
L. D.	13	13	8	14	10	6
T. A.	13	7	9	15	11	1
H. B.	12	9	8	18	10	7
S.	11	9	9	11	10	6
B. H.	11	12	9	11	10	14
L. Y.	13	4	9	8	10	6
All the above	14	9	8	14	10	8
1927.						
All the above	15	2	8	4	10	16

A saving of £1 per acre on growing cereals would be a great triumph. Yet such a sum, so significant in practice, is far less than the normal variations from field to field and from year to year which are so largely outside the control of the grower.

The only solution from the accounting point of view seems to be to cease to regard land as the raw material from which crops are produced, and to take it as part of the machinery of the farm, which must be kept in the highest possible state of efficiency by frequent cleaning and repair. The farm as a rule must be the unit, and the horses and men and farmyard manure necessary to keep the land in the state of optimum production must form part of the overhead charges. The expenses of seed, quick-acting fertilisers, *additional* labour on growing crops and the *total* labour of harvesting may, if desired, be charged to separate accounts or to the crops in question, thus giving the marginal costs over and above the standard equipment of the farm for maintaining the land in good order. This, however, will be a refinement which few farmers will desire to make, since seasonal changes in labour will indicate the additional demands of growing and harvesting such crops as potatoes and sugar-beet.

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[1] These farms are fairly uniform in character. They are all on the boulder-clay, overlying London clay. The soil is medium-heavy two-horse land.

Such a method means that the farmer relies on ordinary financial books for expenditure on cultivations and crops, treating the farm as a whole. His labour can, if desired, be divided into grassland, stock, and arable; but rent and rates, seeds, fertilisers, tradesmen and all other such expenses, will be entered *en bloc* in their several accounts, and not allocated to individual crops and fields. Food given to stock, however, will be charged against horses, cows, stores, sheep, etc., and if possible against the different lots of stock. A simple feeding sheet for the stockman or bailiff, and a book with two cash columns, the one for the capital value of the stock and the other for the current weekly expenses, are all that are necessary. Feeding stuffs and hay thus charged should be credited at least monthly to the granary and hay accounts to maintain a check on bookings and supplies. Roots can be credited at the end of the season, and if no charge is made for straw, no credit need be given to stock for manure. It is contrary to general experience to obtain anything like the value from rich-fed manure that is commonly allowed on theoretical grounds, and such allowances are apt to place stock-keeping in an unduly favourable light. Finally, a useful check on labour can be kept by entering the weekly totals in a book showing in vertical columns the figure for the corresponding week of previous years.

If we accept this interpretation of the limit to which the ordinary farmer, without clerical assistance, can usefully go in the matter of keeping books, we are certainly faced with a lack of data regarding what should be the normal expenditure for maintaining a given acreage of grass and arable together with a given quantity of live stock under given circumstances. It is in this direction that the detailed studies of the economists should eventually be able to give us guidance. If we are to regard our men and horses as part of the standing overhead charges of the farm, we want to be very sure that we are neither under- nor over-equipped, not always a very easy matter, especially when tractors or steam tackle are available. At the best of times the permanent labour must be in the nature of a compromise, based on an *average* season. If things go well, one can do one's land a little better than usual, which is not necessarily profitless: if badly, then one must "scramble through," calling if possible more machinery to one's aid. To explain this point further, we will give a few examples as to what these permanent charges to maintain the land amount to on certain farms in East Anglia.

Wages. This item is, of course, by far the largest in the farmer's costs of production. It is generally held that the effective cost of labour, taking into consideration both the hours and the output of work, has doubled since pre-war days.[1] This estimate, in the writer's opinion, is approximately correct for the country as a whole. In the Eastern Counties the increase is probably considerably greater. The following table shows the wages paid on six farms, amounting in all to about 3,766 acres, for the years 1912–1929. These figures cannot of course indicate the reduction, if any, in the output and quality of the work done: neither have they been adjusted to allow for the seven tractors that have been added to the equipment of the farm during the period, or for the fact that, with more expensive labour, the tendency is to reduce work in ditching, hedging and other things which are not directly productive.

WAGES PAID ON SIX ESSEX FARMS, 1912–1929.

Farm Acreage	F. 867 ac.	T.H. 1,478 ac.	F.H. 487½ ac.	T. 153 ac.	H.B. 525½ ac.	W. 255 ac.	Total 3,766 acres
	£	£	£	£	£	£	£
1912	2,464	3,529	1,184	345	1,284	678	9,484
1913	2,469	3,701	1,285	349	1,488	698	9,990
1914	2,477	3,838	1,213	349	1,412	754	10,043
Av. 1912–14 . .	2,470	3,689	1,227	348	1,395	710	9,839
1915	2,530	3,724	1,287	354	1,485	1,105	10,585
1916	2,786	3,983	1,266	413	1,620	1,255	10,923
1917	3,388	5,001	1,810	552	1,968	1,627	14,346
1918	4,233	6,269	2,233	654	2,318	2,273	17,980
1919	6,051	8,632	2,826	907	3,386	2,876	24,678
1920	6,882	10,022	3,228	970	3,378	3,308	27,778
1921	7,430	11,236	3,678	1,017	3,859	3,432	30,652
1922	5,171	7,577	2,741	747	2,610	2,211	21,057
1923	3,944	6,089	2,242	539	2,297	1,401	16,512
1924	3,925	6,172	2,038	557	2,214	1,130	16,036
1925	4,474	6,921	2,264	557	2,575	1,246	18,037
1926	4,414	7,218	2,369	538	2,647	1,317	18,503
1927	4,394	6,986	2,349	597	2,635	1,135	18,096
1928	4,572	7,373	2,559	621	2,699	1,203	19,027
1929	4,894	7,411	2,572	634	2,812	1,248	19,571

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[1] According to the N.F.U. Annual Report for 1929, the average cost of labour for that year was 110 per cent. over pre-war.

MACHINERY.

It will be seen that, on these particular farms, even the actual cash paid is approximately double that of pre-war days. The total spent on machinery, which includes overheads and labour (except that provided by the regular farm hands), in threshing, hauling, steam ploughing and traction work, has been as follows:

CULTIVATING, THRESHING, AND HAULING MACHINERY, 1912–1929.

Farm Acreage	F. 867	T.H. 1,478	F.H. 487½	T. 153	3A. 219	H.B. 525½	W. 255	Total. 3,766 ac.
	£	£	£	£	£	£	£	£
1912 . .	308	316	90	44	—	194	51	1,003
1913 . .	281	504	87	28	—	172	50	1,122
1914 . .	300	648	171	106	—	227	107	1,559
Av. 1912–14	296	489	116	59	—	198	69	1,228
1915 . .	552	545	170	68	—	223	123	1,681
1916 . .	472	484	200	109	—	185	91	1,541
1917 . .	742	910	282	135	—	555	174	2,798
1918 . .	848	966	493	136	—	482	133	3,058
1919 . .	1,503	1,664	710	188	—	830	402	5,297
1920 . .	1,162	1,713	537	215	—	730	302	4,659
1921 . .	1,675	2,194	692	314	—	995	182	6,052
1922 . .	738	981	408	135	—	592	159	3,013
1923 . .	710	984	268	164	—	368	72	2,564
1924 . .	719	789	336	146	—	378	76	2,444
1925 . .	691	741	191	95	—	381	70	2,169
1926 . .	840	1,119	289	184	—	425	56	2,913
1927 . .	953	1,243	314	170	—	479	49	3,208
1928 . .	886	1,289	320	173	—	322	67	3,057
1929 . .	961	1,336	255	188	—	465	98	3,303

HORSES.

Then there is the cost of horses. The following table of expenses allows for capital depreciation and appreciation,[1] and cost of oats and hay at selling value on farm. No charge is made for attendance or for straw and chaff.

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[1] Horses were not written up to their full market prices during the period of high values.

HORSE EXPENSES—1912–1929.

Farm Acreage	F. 867	T.H. 1,478	F.H. 487½	T. 153	H.B. 525½	W. 255	Total 3,766 ac.
	£	£	£	£	£	£	£
1912	553	702	225	118	294	166	2,058
1913	609	1,106	321	63	306	142	2,547
1914	513	873	257	97	259	134	2,133
Av. 1912–14 . .	558	894	268	93	286	147	2,246
1915	610	764	323	104	310	276	2,387
1916	854	1,188	366	129	372	377	3,286
1917	1,382	2,120	588	287	581	580	5,538
1918	1,182	2,189	800	270	863	678	5,982
1919	1,376	2,540	563	302	759	678	6,223
1920	1,309	2,448	749	249	882	788	6,425
1921	1,244	2,358	826	325	862	633	6,243
1922	872	1,415	536	210	422	330	3,985
1923	646	1,106	565	165	500	240	3,222
1924	667	1,218	428	166	436	184	3,299
1925	557	1,184	342	162	479	166	2,890
1926	576	1,217	394	121	400	148	2,856
1927	493	984	322	153	389	129	2,470
1928	423	1,031	280	133	333	84	2,284
1929	449	1,022	238	145	404	133	2,391

The total cost of men, horses and mobile machinery on these farms is as follows :—

	WAGES, HORSES AND MACHINERY			WAGES ONLY		
	Total	Per acre	1912–14 = 100	Total	Per acre	1912–14 = 100
		£ s.			£ s.	
1915	14,653	3 18	110	10,585	2 16	108
1916	15,750	4 4	120	10,923	2 18	111
1917	22,682	6 0	170	14,346	3 16	146
1918	27,020	7 3	203	17,980	4 15	183
1919	36,198	9 12	272	24,678	6 11	251
1920	38,862	10 6	292	27,778	7 8	282
1921	42,952	11 3	323	30,652	8 3	312
1922	28,055	7 8	211	21,057	5 12	214
1923	22,298	5 18	175	16,152	4 3	168
1924	21,779	5 16	164	16,036	4 5	163
1925	23,096	6 3	174	18,037	4 16	183
1926	24,272	6 9	182	18,503	4 18	188
1927	23,774	6 6	179	18,096	4 16	184
1928	24,352	6 9	183	19,027	5 1	193
1929	25,265	6 14	190	19,571	5 4	199

Thus, taking 1928 as a typical year, costs per acre for wages, horses and machinery were as follows :—

	£	s.	d.	
Wages	5	1	0	per acre.
Horses	0	12	0	,, ,,
Machinery	0	16	0	,, ,,
	£6	9	0	,, ,,

Of the above sum £2 8*s*. per acre was spent in labour on live stock, some 800 milking cows being kept, as well as young stock, sheep and pigs. The amount spent on cultivation and on dealing with the crops averaged therefore approximately £4 per acre. How misleading this figure can be, however, is illustrated by quoting the averages for individual farms from which it was compiled, even allowing for the varying proportions of arable and grassland, and for cropping :—

Farm	Cost per Acre of Wages, Horses and Machinery, less Cost of Labour on Livestock	Corn	Roots	Seeds	Total Arable	Grass	Total
	£ s.						
F. . . .	3 12	422	67	92	582	285	867
T.H.1 . .	3 18	320	85	52	457	325	782
T.H.2 . .	4 6	225	31	56	312	133	445
T.H.3 . .	6 2	129	61	21	211	40	25
F.H. . .	4 5	204	26	81	311	177	488
T. . . .	5 19	106	9	12	127	26	153
H.B. . .	4 4	271	26	60	357	168	525
W. . . .	2 5	53	0	16	69	186	255
	34 11	1,731	305	390	2,426	1,340	3,766

By the study of a large number of such figures, it might be possible to arrive at approximate standards which should represent the cost of land cultivation and crop handling and marketing for particular land, adjustment being made for cropping and distance from station, and amount of stock kept. Thus the costs in the last table range from £2 5*s*. up to £6 2*s*. per acre—a range of £3 17*s*.

If a standard cultivation average be taken on the basis of :—$c + 2r + \frac{1}{2}s + \frac{1}{3}g$ (where c = corn, r = roots, s = seeds and g = permanent grass), then the mean cost is £5 2*s*. 6*d*. per standard acre and the range is reduced from £3 17*s*. 6*d*. to £1 4*s*. This formula is not intended to be a final recommendation, but merely an example of the direction in which investigations can usefully be pursued.[1] The existence of such standards would enable the farmer to compare with them his own total costs under these headings, a more valuable guide than the study of individual crop or field costs.

Control of the other items of farm expenditure is a much easier matter, variation being very much less both from farm to farm and from year to year. Careful annual records under the main headings will soon provide the farmer with an indication of what his own particular costs should amount to. The following averages for the last four years relating to the group of farms already quoted, may be of interest for the sake of comparison :—

Farm	PROPORTION OF TOTAL EXPENDITURE ON VARIOUS ITEMS AVERAGE 1926–1929							
	F.	T.H.1	T.H.2	T.H.3	F.H.	T.	H.B.	W.
Acres, arable	582	457	312	211	311	127	357	69
Acres, grass	285	325	133	40	177	26	168	186
Total	867	782	445	251	488	153	525	255
	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
Wages	45	45	45	38[2]	49	39[2]	45	54
Machinery	9	7	7	8	6	11	7	3
Horses	5	5	7	8	6	9	6	5
	59	57	59	54	61	59	58	62
Fertiliser	6	8	8	10	7	9	7	4
Seeds	8	9	9	14	6	9	6	2
Tradesmen	9	8	8	5	10	7	8	8
Rent, rates, taxes	17	17	15	16	16	15	20	20
Sundries	1	1	1	1	—	1	1	4
	100	100	100	100	100	100	100	100
Receipts, including adjustments between opening and closing valuation	125	119	115	109	106	82	105	118

Note.—No account is taken in the above of tillages or tenant right brought or carried forward.

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[1] The standard deviation of the first set of figures is 26·2, which in the second comes down to 8·7 (variants were classed in groups of ten shillings).

[2] No milking herds. Feeding stuffs are not shown as an expenditure but have been deducted from livestock receipts. The margin shown between expenditure and receipts has to cover all management charges and salaries and interest on capital.

LABOUR COSTS ON LIVE STOCK.

Similarly there must be a considerable mass of data available relating to the costs of milk production, from which it should be possible to devise standard figures weighted for various conditions. That conditions vary is evidenced from the following table showing labour costs per cow on a group of 16 farms under the same management. All cows (not only those in milk) have been included in arriving at these figures. Farms are in descending order of the yield per acre.

Farm	Labour Cost per Cow	Av. Yield per Cow	Cost per Gallon		Percentage of Winter Milk
			In Labour	In Concentrates and Hay	
	£ s. d.				Per cent.
1 . . .	11 7 1	863	3·2	5·4	58
2 . . .	9 15 7	756	3·1	5·1	49
3 . . .	9 15 1	732	3·2	4·1	47
4 . . .	7 1 10	690	2·5	3·6	48
5 . . .	8 15 6	685	3·1	5·0	47
6 . . .	7 14 3	683	2·7	4·0	48
7 . . .	9 6 6	677	3·3	4·3	53
8 . . .	8 19 7	666	3·2	4·4	51
9 . . .	9 5 10	649	3·4	4·6	52
10 . . .	8 16 11	628	3·4	4·5	42
11 . . .	7 14 4	617	3·0	4·3	40
12 . . .	8 14 2	607	3·4	4·5	48
13 . . .	8 14 4	587	3·6	4·0	39
14 . . .	8 13 0	575	3·6	4·4	49
15 . . .	8 17 7	552	3·9	4·6	49
16 . . .	7 1 7	541	3·4	5·0	45

In such a case there are obviously many factors concerned, but it could be useful if all the data available throughout the country were statistically examined in order to arrive at broad generalisations for the guidance of the practical cowkeeper.

It is hoped that these few examples may perhaps stimulate a study of what it should cost to keep land—of varying classes—in a good state of cultivation, with and without the aid of livestock. Those who have been deterred by the complexities and difficulties of field or crop costing need not in consequence neglect to keep simple records of the day-to-day costs of their livestock. Those who do so for the first time will be surprised at the interesting and valuable information that is very soon forthcoming.

All the above data are derived from the records kept by the Hon. Edward Strutt, whose collaboration—alas, now impossible—had been hoped for in this article.

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THE WORLD SHORTAGE OF CATTLE—ITS FUTURE EFFECTS ON BRITISH AGRICULTURE.

THERE are certain basic facts in relation to British agriculture on which it is hardly possible to lay too great stress. One of these is that our live stock forms the backbone of British farming, being in output value three to four times that of our farm crops in England, Scotland and Wales, cattle being by far our most important live stock, and beef our most necessary meat product. Another basic fact is that to feed our people as at present, requires considerably more than double the quantity of beef we produce, though we possess the best beef cattle in the world and can produce the meat of most nutritious value. We must bear in mind also that it is on foreign countries far more than the Empire that we depend for the overseas supplies we must have. Beef production enables large quantities of crop to be consumed and marketed through the medium of cattle, thus expanding tillage and employment. Productive tillage depends on ample cattle-produced manure.

Notwithstanding these inducements to develop our cattle husbandry the production of beef, having proved of late the least profitable of any important department of our agriculture, has become quite unattractive to farmers, and avoided as far as possible. Our present farming depression is due to this position much more than to any other cause.

The main and immediate reasons why beef production has been so unprofitable to us during recent years are undoubtedly the highly organised competition in our free markets of the vast quantities of cheaper produced beef imported from abroad, and the defective marketing of our home produce.

Immediately following the attractive prices in the war years cattle population increased throughout most of the world, over-supply resulting in all the great beef-producing countries. Values fell more and more as cattle stocks, proving unprofitable, were liquidated, this process continuing for several years in the different countries of the world. Just as values tend to rise, through shorter supply, while flocks or herds are being increased, so they tend to fall while stocks are being decreased, market supplies being thus swelled for the time.

The reduction in breeding accompanying this liquidation has resulted in the world's stock of cattle being now left lower in relation to human population than pre-war in almost all the important beef-producing countries, the shortage having been intensified by active war conditions in certain countries. But the shortage in cattle and beef supply is unevenly distributed throughout the world, due mainly to the strange fact that the great producing and consuming countries are divided between two markets by the presence or absence of a certain disease.

The countries free from it will not buy fresh meat (chilled or frozen) from countries where foot-and-mouth disease (*aftosa*) prevails, while countries already affected by the disease take what they may require from any other countries that have surplus to export. Thus, about half the people who need more than they produce are short of supply, and the other half have more offered than their share at present, we being in the latter class, while North America is in the former. The production of cattle has thus become profitable in North America while quite the reverse in Britain. In the United States values of beef cattle have nearly doubled compared with pre-war, or with 1921–22 when war prices fell heavily.

This artificial division of the world's beef supply and demand has only become of importance quite recently—since 1926, when the United States adopted an uncompromising position for the protection of their herds from infection, refusing, even in face of necessity then becoming evident, to import from other countries to meet their needs. It can hardly be doubted that but for this decision there would have been more even distribution of exportable world production, and British agriculture would have been enjoying a fair degree of prosperity in place of the intense depression of the past three years.

The following table (page 29) of cattle population in relation to human for the principal beef consuming and producing countries of the world is taken from a world survey recently made by the U.S.A. Bureau of Agricultural Economics at Washington, with reference to their anxieties as to meat supply. It helps to show the world position which American policy has in large degree upset.

The table shows the countries with substantial surplus of beef to export. Pre-war, U.S.A. had such a surplus to dispose of, but it has since definitely passed over to the list of countries requiring to be supplied, and the demands of its enormous population are now very large and increasing rapidly. The change suddenly disclosed itself in 1926.

The more important exporting countries in their order are the Argentine (by far the largest), Australia, Uruguay, New Zealand, Canada and Brazil. The South American exports come mainly to this country, as well as half Australia's export of beef, the other markets of the latter country being on the continent of Europe and in the Far East. New Zealand sends us comparatively little beef now, though substantial quantities till a year ago.

SOUTH AMERICAN SUPPLIES.

Though South American Government returns are sparse and unsatisfying, the Washington agricultural economists have scrutinised such figures as are available. From these they observe considerable falling off in exports of beef from the Argentine and Uruguay, the former country's export of all kinds of beef being reckoned to have fallen in 1928 26 per cent. below 1927, and 21 per cent. below 1926. The figures given show a drop in total of all beef from the Argentine of 436 million pounds in 1928. As regards 1929 the American authorities point out a decrease of 4 per cent. in slaughterings during the first few

CATTLE NUMBERS (APPROXIMATE) IN PRINCIPAL BEEF EXPORTING AND IMPORTING COUNTRIES IN THE WORLD IN RELATION TO POPULATION AND CONSUMPTION.

Country	Year	Human Population	Cattle Population	Number per person	Consumption of beef and veal lb. *per capita*	Pre-War			1928 Beef and Beef Products (thousand lb.)	
						Year	Number of Cattle per person	Consumption of beef and veal lb. *per capita*	Exports less Imports	Imports less Exports
Argentina	1929	10,922,000	34,410,000	3·151	255·1 (1928)	1914	3·280	254·9	1,267,645	
Uruguay	1924			5·140		1908	7·860		(1927) 347,269	
Australia	1927	6,111,000	11,963,000	1·958	123·1 (1927)	1911	4·425	152·3	169,395	
New Zealand	1928	1,379,000	3,273,769	2·374	174·77	1911	2·006		84,697	
Canada	1928	9,519,000	8,793,272	0·924	67·3 (1928)	1911	0·906	60·9	48,062 (also 245,428 cattle & calves)	
Brazil	1920		34,271,324	1·119		1912–13	1·500		(1927) 72,743	
U.K. and Irish Free State	1926	48,344,000	12,083,270	0·250	62·1 (1928)	1913	0·261	61·3		1,716,636
Germany	1928	64,038,000	18,010,669	0·281	40·6 (1928)	1914	0·320	40·6		327,965
France	1926	40,744,000	14,372,980	0·353	45·8 (1928)	1914	0·372	49·2		23,850
Belgium	1928	7,938,000	1,711,702	0·216	42·3 (1927)	1910	0·253	41·6		51,264
Italy	1926	40,064,000	7,400,000	0·185		1911	0·190			23,977
Russia	1927	147,000,000	65,952,000	0·449		1916	0·419			
Japan										67,883
United States	1928	118,628,000	55,681,000	0·469	58·5 (1928)	1913	0·609	73·5		79,507* (also 534,804 cattle)

Note.—The U.S.A. Survey covers also other Countries whose exports or imports, being comparatively small, are omitted above.

* (Fresh, canned and cured beef.)

months, but returns of slaughterings of cattle published since show that this decrease has been partly made good since April. It is significant that this is entirely through increased slaughtering of cows and calves, making up in part for the decrease in steers, and that though the number of quarters of chilled beef exported to this country in 1929 has slightly increased, our Trade Returns show a substantial drop in the weight of beef we have received from the Argentine compared with 1928. Drought conditions may partly account for increased slaughterings from June to September.

Our own total beef imports from the Argentine in 1929 are over 4 per cent. down in weight for the eleven months to November 30, and the proportion of frozen to chilled beef has increased considerably, suggesting inferior quality, probably due to increase in cow beef. The increased slaughterings of cows, heifers and calves in the Argentine has been noticeable during the last two years, though the year's increase in slaughter of female stock of 7 per cent. in 1929 is much less than in 1928, when it was as much as 23 per cent. over 1927. The fall in the average weight of cattle in 1928 was also considerable.

During the months of 1929, for which slaughtering and other figures are as yet available, Uruguay has apparently been endeavouring to make up for Argentina's drop in beef supplies to this country, particularly in chilled beef. For Uruguay has sent us, to the end of November, 15 per cent. more beef in 1929, so making good a third of the Argentine decrease. Both this year and last Uruguay has slaughtered a very large proportion of female stock and calves.

The relative importance to Argentina and Uruguay of their mutton and wool production, now competing strongly with beef production, must be borne in mind. The Washington authorities quote estimates placing the combined sheep population of these countries at about 60 millions, and their export of mutton and lamb about 225 million pounds. In the eleven months of 1929 reported slaughterings of sheep have greatly increased compared with 1928—in the Argentine 9 per cent., and in Uruguay slaughterings have doubled. Argentine export of lamb carcases has risen 50 per cent.

The Washington department draws attention to the fact that the United States import figures show increased receipts of "processed" meat, mostly beef from the Argentine—preserved meat being regarded as sterilised and safe, and therefore not subject to their embargo, heat destroying the *aftosa* virus. The Argentine export figures for 1927, 1928 and 1929 also show substantial increases each year in their canned meat trade, now going chiefly to the United States, while in 1929 considerably less has come to the United Kingdom. The available United

States import figures of canned beef for 1929, to the end of September, show a great increase—72,592,000 lb. compared with 39,874,500 lb. for the corresponding period of 1928.

The Washington authorities appear to regard Brazil as in rather promising position as regards beef production, its exports having been rising during the last three years, but they are unable to quote any cattle Census figures or other definite information to show what supply may be expected from Brazil. Our own beef imports from Brazil have varied considerably in recent years, but in total are not as yet very large, though important.

The general conclusion of the Washington economists is that in South America "definite reductions in cattle numbers are apparent, with current beef production considerably below that of last year." In a later report (October, 1929) they write as to U.S.A.: "Due to diminished supplies in this country and consequent higher prices, imports of fresh beef and veal have rapidly advanced until in 1928–29 net imports amounted to 59,566,000 lb., a gain of 31 per cent. over 1927–28, and three times the average net imports for 1922–26. New Zealand, Canada and Australia send us most of our imported beef. Striking increases have also taken place in imports of canned beef, largely from Argentina. During the year just closed net imports reached 45,492,000 lb., a gain of 25 per cent. over the previous maximum."

Of course the Argentine is by far the most important country in the world as to beef supply, and it is the position there that demands the most careful and constant observation as to the supplies available for this country. There can be no doubt that the North American embargo on importation of meat from South America was a grave disappointment and discouragement to the Argentine producers and exporters. They had hoped for a new and large market for their meat, consequent on the United States ceasing to be able to supply its own people, in place of Argentina having to rely only on our market. President Hoover's visit to Buenos Ayres in 1928, and the assurances he was stated to have given, that the door must be opened soon to supply his country's needs, raised their hopes for a time, but these have been shattered by an incident in the beginning of 1929 which demonstrated beyond question the certainty of *aftosa* infection if the United States embargo were relaxed, a risk the farmers of that country would not tolerate. In face of this and their anxiety lest this country refuses any longer to accept their meat with the infection it brings, notwithstanding all their precautions, it is hardly surprising if Argentine cattle breeders, already complaining of meagre profit, have become less eager in business; nor that South American meat production is to a large extent drifting from beef to mutton and lamb in the belief perhaps that sheep are less susceptible to the disease and more profitable than cattle. It is significant that during the last two years the demand for bulls has generally been poor, while rams have been in keen request, and many imported.

There can be little doubt that Argentine cattle breeders are still very anxious as to the *aftosa* infection it has been proved is transmissible to this country in the flesh and bone of the chilled meat they send us. They know of the too frequent outbreaks of the disease in this country, that our authorities now regard South American imported meat as the most probable, if not certain, source of infection, and that the regulations to prevent export to this country of infected carcasses are insufficient to protect us, even were they strictly enforced. For instance, their great Liniers Market, near Buenos Ayres, is antiquated and discreditable, and is known to be full of infection. Diseased cattle are to be seen in it almost every market day, it is said, and their Government has admitted that a new and well-conditioned market is needed, but nothing has as yet been done to provide this. There are other markets in South America said to be in like position, and the disinfection of cattle trucks seems inadequately enforced, as yet.

According to the official returns the exporting frigorificos purchased at the Liniers Market in each of 1927 and 1928 over one million of the cattle they killed, and, however careful, these cattle are bound to bring infection to the frigorifico pens and premises. The earliest stage of the disease is recognised as the most dangerous. It is not to be wondered at, therefore, if those who know the actual conditions fear lest this country may, in the interests of our suffering farmers, refuse, like North America, to tolerate infection being brought to our herds through the medium of this imported meat.

The Argentine breeders also realise that they are now under the heel of the ring of exporters to Britain formed for the limitation of market supplies of chilled and frozen beef. On the other hand, scarcity of supply lately raised the market price of the better class of cattle about 10 per cent., which, if it continues, may prove some encouragement to breeders.

AUSTRALIA.

Australia, the next most important exporter of beef whose position the Washington authorities discuss, shows an increase in quarters of crops shipped for the year to June 30, 1929, over the preceding twelve months of about 2·4 per cent., this increase being wholly in exports to destinations other than Great Britain, shipments to Japan being nearly double those for the preceding year. It is pointed out that the Australian exports in 1928 were larger than in any year since 1925, and that, according to the United States import figures, receipts of beef in that country from Australia in the first six months of 1929 were 1,607,000 lb., about twice the quantity imported in the corresponding period of 1928. The Australian statistics show that their exports of frozen beef to the United States and Canada rose to 2,368,400 lb. in 1928–29 from 162,600 lb. in 1927–28. In the year last ended Britain received only a little over 50 per cent. of the Australian export of frozen beef, large quantities being sent to Belgium, France, the Philippines, Japan, and a number of other eastern markets, with demands apparently increasing.

As regards Australia's production there is no evidence as yet of immediate increase, notwithstanding the fact that in 1928–29 producers obtained substantially enhanced prices. The cattle population has been shrinking each year since 1923 and the last returns, 1928–29 (11,437,257 head), show a reduction of nearly two millions since 1925, and 180,000 in the last reported year. It is thus clear that the number of cattle in Australia slaughtered for export in the last four years has been substantially in excess of production. Doubtless drought conditions have aggravated the position.

It is pointed out in the Commonwealth that there are many difficulties as regards production of beef for export, apart from the droughts which have proved such a serious natural deterrent. Nevertheless, the increase in importation of bulls would point to a movement towards greater production of cattle in Australia, or at any rate towards the improved quality much to be desired. In the face of increasing demands for their beef produce in the East and in North America it is impossible, as matters stand, for Australia to maintain her present export to Great Britain, unless we outbid other countries as buyers, or she is induced by high price to further reduce her herds in order to supply us for a time.

NEW ZEALAND.

New Zealand is the one country exporting to us whose cattle numbers are known to have increased in the last two years, having risen from 3,257,729 in 1927 to 3,444,191 in 1929, but the increase appears to have been in dairy cattle. This increase is the more remarkable as New Zealand sheep stock has also increased, 3,360,000 since 1927. Apparently cattle are necessary to maintain good grazing for sheep.

New Zealand's total exports of beef and veal rose in 1928 to 731,562 cwt. In that year exports to the United States and Canada increased to 255,806 cwt. from 8,484 cwt. in 1927, and only 252 cwt. in 1926. The Washington Department's figures show that in the first six months of 1929 their imports of New Zealand frozen beef and veal well-nigh doubled, and the New

Zealand Meat Producers' Board report that for the twelve months to May 31, 1929, 60 per cent. of the beef exported was shipped to North America. What Canada gets only enables her to increase her export of beef, veal or cattle to the United States, and thus it is evident that the United States has now, directly or indirectly, taken over the main export supply of beef from New Zealand. As regards our own beef imports from New Zealand for the eleven months of 1929, to November 30, they have shrunk to 122,910 cwt. from 450,908 cwt. in the same months of 1928.

CANADA.

The position of Canada's export of cattle and beef is of considerable interest. Of late years the cattle population of Canada has been shrinking and the returns of June, 1929, show it, at 8,931,000, to be about 12½ per cent. below the numbers in 1921, though in 1929 there is an increase of 138,000 compared with 1928. Till 1926 Canada exported substantial quantities of beef and veal to this country as well as a considerable quantity to the United States. She also exported large numbers of cattle to this country from 1921 to 1926. In 1925 Canada sent us 110,000 cattle and over 10 million pounds of beef. In 1928 we got only 400 cattle and 500 lb. of beef, and our 1929 Trade Returns show no imports of either cattle or beef.

The United States are now taking all the cattle, beef or veal Canada will give them, and at tempting prices. In 1928 Canada's export of beef and veal to the United States was 44,699,000 lb., a reduction on the previous year, but for the first six months of 1929 the Washington authorities report an increase of 32 per cent. in beef and of 20 per cent. in cattle, receiving besides an increased number of Canadian calves. Against this export across her frontier Canada imported from New Zealand in the twelve months to March last 1,875,609 lb. of beef compared with only 201,928 lb. in 1927–28.

Even though the high prices the Canadian farmers have been getting for their cattle in the past two or three years may bring increased production it is unlikely that Canada, with her increasing population, will be able to spare more cattle or beef to supply the United States unless by substantial increase in her imports of frozen beef from New Zealand and Australia, or further reduction of her herds. Canada dare not import any fresh beef from South America. An increased duty on beef and cattle imports to the United States would in the long run benefit Canada, and other countries too, if its effect could last long enough to stop the drain on their stocks, to meet the United States demand.

HOME SUPPLIES.

The position of the beef supply of the United Kingdom is very fully described in the able and exhaustive report on the marketing of cattle and beef issued by our Ministry of Agriculture in August last. It is shown that in 1927–28, home-produced beef and veal formed 45·7 per cent. of our supply, and imports from overseas 54·3 per cent. (home proportion having increased that year by 3 per cent.), and that the total supplies for Great Britain of beef, veal and edible offal, including both home production and net imports, increased year by year after the war till 1925–26, in which year the consumption per head rose to 71·6 lb. Since May, 1926, consumption has slightly gone down, to 70·2 lb. in 1927–28, due perhaps to the poverty in mining districts. Imported supplies, which previously had been mounting up rapidly, began to decrease in 1926–27. On the other hand, the quantity of home beef marketed, which had been going down post war, increased again in 1925–26, and substantially in 1927–28. The biggest decrease in imports was in 1927–28, 845,000 cwt., due mainly to a drop of over 2 million cwt. in the imports from the Argentine in 1928, against which Australian and New Zealand imports that year increased 500,000 cwt. In the year to May 31, 1928, home produced beef is shown to have increased 800,000 cwt., so nearly balancing the drop in net imports as compared with the previous year. This meant, of course, increased slaughtering of our home cattle, which showed itself in the reduction in our Census numbers as at June, 1928, compared with June, 1927. The actual reduction (Great Britain) was 245,407 head according to the returns, that reduction including a drop of 72,548 in calves, for which decreased breeding would seem mainly answerable.

Similarly we find from our Trade Returns (to May 31) that in 1928–29 imports to the United Kingdom of beef and veal fell 458,000 cwt. compared with the previous twelve months, and again a further reduction of 98,000 in total numbers of cattle is shown in the provisional returns for the United Kingdom as at June last, notwithstanding that 140,000 more cattle of all classes were imported, almost all from the Irish Free State, in 1928–29. It would thus appear that during both the last two years we have been making good diminished imports of beef by slaughtering home cattle stocks.

Our Trade Returns show that in the last two years we have been paying higher prices for our imported beef, 15 per cent. in 1928, and 19 per cent. in 1929, compared with 1927 (the year of big Argentine imports and meat war cheap prices). The facts that the average price of first quality English beef rose barely 7½ per cent. in 1928, and that in 1929 home beef prices have apparently fallen back to near the 1927 level, show that the Meat Traders were able to buy relatively much cheaper from our home farmers than from abroad.

Our home producers have no organisation enabling them to secure the market advantage due to reduced competitive supplies, while producers abroad and importers are highly organised for effective commercial purpose. It is well known, for instance, that the Argentine Rural Society is one of the most powerful organisations in that country, while the New Zealand Meat Producers' Board organises and largely controls the marketing of that Dominion's meat exports, encouraging production in a way Australia might follow with advantage.

Another reason for the apparent inconsistency in price level may have been that many of our home producers have been very anxious to reduce their farming stock and production in a department of agriculture which has been bringing them heavy losses since the South American Meat War began in 1926. Whatever be the cause, the overseas producers and exporters have secured practically the whole market advantage from the heavy reduction in Argentine imports of beef consequent on the large overdraft on the Argentine herds when the meat war was raging and our home markets were swamped with competitive supplies from South America.

It may be thought that demand must fluctuate much from year to year with varying conditions of trade and employment, but it is noticeable how little the *per capita* consumption of beef has varied in recent years, according to the figures worked out in the Government Market Report referred to. Taking London by itself, Smithfield sales of beef for the eleven months of 1929 as yet reported are almost exactly the same as for the corresponding months of 1928—226,274 tons against 225,476 tons, though the quantity of home-killed meat has increased almost 2½ per cent. and overseas gone down in like quantity. Even the total mutton and lamb figures remain approximately the same, though in their case imports have increased considerably and home-killed fallen in quantity about 10 per cent.

UNITED STATES DEMAND.

It will be a serious matter for this country if we have to make further inroads on our cattle stocks to meet our consumption demand. This must depend mainly on overseas supplies and other countries' needs. It is obvious from the figures already given that the United States with their rapidly increasing population will need more and more of the world supply of beef. They may increase their tariff, but their people must be fed, and the effects of higher tariff walls may prove merely temporary, as has been found in the past, unless by increasing cost more the food habits of their people can be changed still further to admit of their eating even more pork. Already their beef scarcity and its high prices have forced them to reduce beef consumption over 13 lb. a head since 1926, when their shortage began to show itself, and to increase their pig meat consumption from 79·2 lb. to 88·6 lb. per head in 1928, so that now the Americans eat about 50 per cent. more pork than of beef and veal. It is unlikely that they can carry the process much further. The United States cannot afford further to reduce their cattle herds. These have been shrinking seriously since 1922, nearly 12 million head, a reduction of 12 per cent. This shrinkage has been almost entirely in beef cattle, dairy cattle maintaining their numbers fairly evenly. Their returns for 1929 show actually fewer beef cattle in the country than for fifty years back, but the shrinkage has been slackening in the last two years, and the latest figures available for 1929 show reduced slaughtering of cows and calves, indicating an endeavour to turn the downward drift in production.

The truth is that the United States ceased to be self-sustaining in beef supply a good many years ago, at a date difficult to ascertain owing to the abnormal conditions and export demand in the war years. Having gained large revenues from their export beef trade in the past it was not surprising that the United States were unwilling to face reversal of that trade position, and endeavoured in 1922 to stop imports by a tariff duty of 3 cents a pound on beef imported. An immediate effect of this high tariff was to save their Western banks and financiers further losses, due to the collapse of war prices, by concentrating national consumption of beef on their home herds, and so enabling the financiers to realise their foreclosed cattle stocks at the higher prices the consumers had to pay. But, of course, the more permanent result was heavily to reduce the stocks of cattle in the country to the low level which still continues, and which even their high cost of meat has not as yet been able to raise. A further rise in duties on imports as now proposed will increase temptation to reduce cattle stocks still more.

INCREASED MUTTON SUPPLIES.

As against their shortage of beef, the United States have now much larger supplies of home mutton and lamb. Their sheep population has been increasing rapidly for several years, mainly in substitution for cattle. Since 1922 it has increased eleven millions, and of late the increase has been particularly rapid, seven and a half million in the last three years or about 19 per cent. The Washington authorities reckon that their home supplies of mutton and lamb now are keeping pace with domestic requirements, and that this will limit materially imports of such from abroad. In 1928 the United States imported over 1,666,000 lb. of lamb and mutton from New Zealand, and 529,000 lb. from Australia, but reduced imports from New Zealand are reported in 1929.

In the opinion of the Washington department South American flocks likewise have been increasing, the substantial expansions this year in the exports of lamb from the Argentine and in Uruguay's slaughter of sheep pointing to this opinion being correct. The sheep population of Australia and New Zealand together have increased 7 millions in the year, according to the returns recently published. Canada's has risen almost a million since 1925 (35 per cent.), 300,000 in 1928–29. The number of sheep in Great Britain has been going down in the last three years, mainly due to reduced tillage in England. Since 1926 there has been a reduction of 460,000 according to the provisional figures for June, 1929, though there still remains an increase of 500,000 over the number in 1925. In Ireland, however, sheep are steadily and rapidly increasing in numbers, and have risen over 700,000 since 1925, being now over 4 millions. More and more sheep and lambs are being imported from that country to England.

It would seem likely, therefore, that markets will be very fully supplied with mutton and lamb in the near future, and it is noticeable that prices of our imported lamb have been dropping for some little time, though much less heavily than wool. But it is generally recognised that demand for mutton and lamb has very little relationship to that for beef. Consumption *per capita* either in this country or in the United States of these two forms of meat does not vary in any way that is complementary, or even co-related, as is the case in America as between beef and pork. This may be largely due to the fact that mutton is substantially dearer than beef, and is recognised more as a luxury meat and less satisfying than beef. In both countries consumption of mutton and lamb has been remarkably steady for several years, though slightly less than pre-war.

SHEEP REPLACING CATTLE.

It has been obvious during the last three years that sheep have been paying much better than cattle in almost all the important live stock countries of the world, largely due to the higher prices for wool. The live stock figures of almost all these countries indicate the trend to sheep, and those collected by the United States Department show the position very plainly. In that country the growth in sheep numbers commenced about 1922, when cattle prices collapsed and the serious position arose which continued during the years 1922–25, aggravated no doubt by the fact that, both in the western production of cattle and in the middle west feeding for beef, the business was largely conducted on credit under their cattle mortgage system.

There can be little doubt that the establishment of sheep stocks, particularly in the western ranges of pasture, has blocked the way for the return of cattle to their former breeding grounds in the United States, and materially lengthened the cycle of production and price movement, which has been a characteristic feature of American live stock records, retarding the upward movement in cattle population which follows recovery of market values, sooner or later.

It was by cutting into their cattle stocks that the Americans made up for reduced production to meet their nation's needs for beef till 1927, since which time they have saved the drain on capital to some extent by heavier imports of fresh meat from Canada, New Zealand and Australia, and by greatly increasing their imports of "processed" beef from the Argentine.

FUTURE OVERSEAS SUPPLIES.

With the huge population of the United States and Canada (these countries now having to be considered together in matters of meat supply), increasing at a figure approximating a million and a half a year, it is obvious that, to maintain even their reduced consumption of beef, greatly increased imports will be needed year by year. The problem will be whence they are to be drawn. The populations of other countries are also increasing, and it is evident that the Eastern countries, such as Japan, are taking to the consumption of meat much more than hitherto.

It would seem that the North American demand is already exhausting any surplus from New Zealand, and has begun to cut into supplies from Australia. As has been seen, the Commonwealth export for the last few years has been inflated beyond actual production by steady reduction of its herds. Any surplus of "fresh" meat from South America is outside North American reach under the existing embargo for protection against *aftosa* infection, and even were it within reach it would merely reduce what is available for the United Kingdom and Europe. Much the same may be said of their now enormous import of canned beef, amounting to about 2 per cent. of their total beef consumption. It, too, is reducing what South America can export to this country or to Europe. What we are witnessing to-day is the United States in their hunger bursting the bonds of Tariff and Embargo with which they had bound themselves in their endeavour to self-satisfy the craving of their people for the meat they need and they see other countries of the world can give them at the high price they have taught themselves to pay.

In the face of this world position it is impossible to avoid grave anxiety as to the future beef supply of Great Britain, or the anticipation of any less serious result than such an increase in market values of cattle as may reduce the consumption of beef in all the countries to be supplied, followed, let us hope, by the increased production such higher values will induce in future years.

MORE CATTLE AND TILLAGE NEEDED.

In the meantime it would seem of the utmost importance that the beef-producing countries should awake to the fact they have not yet realised, that the apparently ample supplies to meet the world's beef demands are due to the slaughtering of herds in place of natural increment. Seeing this they might return to the breeding of cattle as rapidly as possible, to lessen the danger of inadequate supply for the future feeding of the dependent peoples, bearing in mind that it takes years before increased production of cattle can produce a material increase in supply of meat, and meantime populations are growing. Whatever may be the fate of South American production consequent on the hold *aftosa* has taken of that continent, there can be no doubt as to Australia's capacity greatly to increase her production of cattle and beef, though obviously it must take considerable time. As to our own country, our beef production is for practical purposes completely linked with tillage. We can keep more breeding cattle with only moderate increase of winter food, but to fatten more than at present will demand corresponding increase in crop production. Even a modest increase in cattle and beef values, as seems inevitable at the very least, would justify the tillage of our more productive lands in producing crops which could be marketed with profit through the medium of cattle fed to supply meat for our people. In recent years our autumn markets have been glutted with unfinished grass-fed cattle we had not sufficiency of roots and fodder to winter-feed to maturity, with the result that such cattle have often brought no more than they had cost in spring or early summer when there is usually strong demand for stock to summer graze. It is largely due to this autumn slaughtering of unfinished cattle that English beef is complained of as deteriorating in quality and having to give place to chilled beef from Argentine alfalfa-finished steers.

PROTECTION OF OUR HERDS.

We may complain of the imports from South America as ruinous to our farmers, but not until our own Empire can provide the food we need can we dispense with these in the present position of our requirements. But in the meantime it is our duty to home producers, and for the encouragement of home production and supply, to do all possible to prevent the losses our farmers and their live stock suffer through the *aftosa* infection carried to our shores in the meat South America sends us. It would seem obvious that at any rate we should insist on greater precautions than at present. We can now ill afford the losses of live stock under our slaughter policy or the indirect heavy losses to our farmers. No meat should be admitted within our shores from frigorificos which accept cattle which have passed through the public markets and do not confine their supply to the cattle sent direct from the estancias where they are first of all inspected and must be certified free of the disease and safe from contact with infected cattle. There should also be firmer insistence on the disinfection of the railway wagons conveying these. Further, it would be of practical help in enforcing our Government regulations prohibiting scraps of meat and bones being brought within reach of our live stock if all South American imported carcasses were marked to distinguish them, in such a manner that every joint cut from them would show their origin, so inviting special care to conform with these regulations as regards the meat so marked.

However determined we must be to protect our herds at home we must remember that the Argentine has always been in close and friendly relationship with us in the supply, to mutual advantage, of the food we need. The people of that country have, in frank and friendly manner, recognised their duty and desire to do all in their power to secure our herds from the risks of infection so long as the disease, so baneful to us, remains in their land. Any further security of the continuance of their supplies to us would doubtless be acceptable to them in their wish to assure us.

The conclusions of the Washington Government Department give weight to those already reached by the writer, published in the past two years, that the world is faced with a shortage of cattle and the time is drawing near when this will bring serious consequences, to this country in particular. The same conclusions in the main are apparently being reached by others qualified to speak, including Professor Scott Watson, of Oxford, in a recent address. These conclusions demand serious attention with regard to the feeding of our people, and not merely as giving hope for material improvement in our agricultural position and increased employment by bringing land back to tillage. As a nation we cannot take risks in matters of food supply, and the facts set forth above would seem to indicate that pressure of shortage may not be long in letting itself be felt, for it is hardly possible to conceive that deeper inroads into the cattle stocks of the world can be allowed so as to maintain supply.

The warnings of Washington to the farmers of the United States are now having their effect in the reduction in the slaughtering of calves, and soon they may induce North American production to turn from flocks to herds and save market loss otherwise inevitable. In this country we have as yet no such authority under Government to point out to our farmers what may be ahead, or to advise in their business as the producers of our people's food. Thus it is left to amateur effort to collect and present the knowledge that is within much easier reach of those who command the official sources of the best and most exact information.

WILLIAM S. HALDANE.

Edinburgh.

AGRICULTURE IN LANCASHIRE.

THE popular conception of Lancashire is of a blackened countryside—a place of chimney-stacks and sulphurous slag heaps—where the farmer must wring his livelihood out of " the begrimed pastures that scarcely separate the towns." A conception true enough applied to the limited industrial area in the south-east from which it is drawn, but wholly misleading when it is generalised into a picture of the county as a whole. Those of us who, when we think of Lancashire, think not only of Oldham, Manchester, Bolton, and Wigan—a collection of cotton and mining towns strung along a tram line—but of that piece of England which stretches from Lake Coniston in the north to Manchester in the south and from the Atlantic to the Pennines —know that over the greater part of that area conditions prevail as rural as in the purely agricultural counties.

GENERAL FEATURES.

Even from the dry bones of the Agricultural Statistics we can reconstruct the skeleton of a county in which agriculture is not the least of the industries. According to the Agricultural Returns for 1928 the total area under crops and grass, apart from the very considerable amount of rough grazing, is just under 724,000 acres, and of this 210,000 acres are under arable cultivation; compared with other English counties, Lancashire ranks eighth in respect of the area under crops and grass and tenth in respect of the acreage of arable land. The chief arable crops are potatoes (39,000 acres) and oats (69,000 acres); only two counties—Lincoln and Yorkshire—have larger areas under potatoes, and only four have a bigger acreage under oats. There is a comparatively large area under " market garden " crops, particularly cabbage (just under 3,000 acres), celery (785 acres), and rhubarb (560 acres). In view of the proximity of excellent markets the area under small fruit (544 acres) is not so large as might be expected, but there is a fairly large acreage (2,370 acres) of orchards, mostly apples and damsons.

When, however, we consider the numbers of live stock in the county, Lancashire occupies a more important position amongst English counties. The number of cows in milk and cows and heifers in calf, 140,000, is larger than in any other English county except Yorkshire. Although over very large areas of the county practically no sheep are kept, sheep farming is important in the hilly districts of East and North Lancashire and in the Fylde, so that the sheep population is fairly heavy, being over 373,000, the county occupying ninth place amongst English counties in this respect. The pig population of nearly 100,000, although it is tenth largest in the country, is less than might be expected in view of the proximity of such excellent markets. Pigs are found mainly in the cheese-making districts north of the Ribble, where they provide the most profitable means of utilising the whey.

Even a summary of the agricultural statistics of the county would be incomplete without reference to the magnitude of the poultry-keeping industry. The Agricultural Returns show that in June, 1928, there were over 4½ million fowls kept on holdings of over 1 acre. If to this is added the estimated number kept on smaller areas, the fowl population of Lancashire must be over 6,000,000. This is much larger than in any other county and is more than one-eighth of the total fowl population of England and Wales.

Lancashire is a county of small farms. Out of approximately 10,000 holdings of over 20 acres, more than 8,000 are under 100 acres in extent—a proportion larger than any other county in England. A farm of about 70 acres is considered a fair-sized farm and 150 acres a comparatively large farm. This preponderance of farms of such a size that they can generally be worked by the farmer and his family without recourse to much hired labour has been one of the main reasons why the present period of agricultural depression has affected Lancashire less severely than most other counties.

The general characteristics of Lancashire agriculture indicated by the Agricultural Returns are conditioned by a number of determining factors: topographical, geological, climatic, economic. It is proposed to examine each of these influences in turn and then to deal more fully with the different types of agriculture which they combine to produce.

TOPOGRAPHICAL.

Along the whole 60-mile length of its eastern side the county is bordered by the Pennine Range, from which two prominent spurs—the Bowland Fells in the north and the Rossendale Fells in the south—extend far into the county.

The mountainous area flanking the Pennines rises up to 1,800 feet and extends roughly east of a line drawn from Lancaster, passing through Horwich to Oldham ; it covers approximately half the county. It is intersected by the valleys of the Ribble and the Lune and on its southern extremity gradually falls to the lowlands of the Mersey tributaries. Although in some districts grassland is cultivated up to 1,000 feet, usually the land above an altitude of 800 feet is unreclaimed moor, used only for sheep grazing. The hill slopes below this level, and generally the valleys also, are under permanent grass.

North of the Ribble the Pennine uplands descend more or less abruptly to the plain, but south of the Ribble and to the west of the Horwich-Oldham line there is a wide fringe of hilly country between the mountains and the plain. In its widest part, between Bolton and Ormskirk, this range of Pennine foothills stretches for about 18 miles and rises at several points to over 500 feet. This area is all cultivated and is mostly under a system of mixed arable and grass farming.

Between the hilly country and the sea lies an extensive tract of low-lying land. Between Liverpool and Fleetwood it extends from 15 to 20 miles inland, but farther north narrows to a mere coastal strip only a few miles wide. The southern portion of this plain is devoted mainly to arable farming ; north of the Ribble mixed farming prevails.

In the extreme north-west there is a detached area known as the Furness district, separated by a strip of Westmorland and by Morecambe Bay from the rest of the county. Lake Coniston and half of Lake Windermere are included in this area, which in its physical features, and in the interests and temperament of its inhabitants, is more closely related to Westmorland than to Lancashire. In the uplands sheep farming, and in the lowlands mixed farming prevails in this district.

GEOLOGICAL.

North of the Ribble, Millstone Grit and Mountain Limestone, and south of the Ribble, Millstone Grit and Coal Measures, are the formations underlying the mountainous and hilly country described above, whilst the New Red Sandstone and Keuper Marl of the Triassic series form the rock bed of the plain lying between the hills and the sea. The flags, slates and grits of the Silurian rocks give rise to the pastoral country in the extreme north of the county. But over the greater part of the area the carboniferous and triassic rocks forming the solid geology of the county are covered by glacial drift, so that generally speaking the soil has not been formed directly from the underlying rock, but from transported material, frequently very different in character from the rock below. This drift may be from 100 to 200 feet in depth, but on the hill-sides and minor eminences where the drift is thin, the subsoil is more closely related to the local rock material. Over a wide stretch of South-west Lancashire there is a deposit of sand, considered to be derived from the drift by the action of water, whilst towards the seaboard the subsoil for a few miles immediately behind the sand dunes is composed of wind-borne sand, generally of greater interest to the golfer than to the farmer.

Over wide tracts of the glacial drift in the south and west there have been extensive accumulations of peat forming what is known as "moss," of which Chat Moss is the best known example. Extensive alluvial deposits are found in the river valleys, and give rise to heavy but good cropping arable land known as "marsh land."

The agricultural significance of the wide variety of soils formed from the deposits mentioned will be discussed in dealing with the systems of farming followed in the county, but one characteristic common to nearly all classes of soils in the county may be mentioned here. The soils are almost invariably very deficient in lime. This is especially the case of the soils south of the Ribble where the sourness due to the inherent poverty of the soil in lime has been accentuated by the acid fumes from the industrial areas.

CLIMATE.

It is a matter of common knowledge that the localisation of the cotton-spinning industry in Lancashire has been largely due to the climate. Fortunately a moist mild climate is also favourable to the growth of such crops as meet the special demands of Lancashire markets. The rainfall varies with the altitude; for the past four years the average rainfall at Southport has been 36 in., at the County Council Farm Meteorological Station, Hutton, 12 miles inland and at an altitude of 82 ft., 38 in., and at Darwen, a further 12 miles inland, at an altitude of 724 ft., 57 in. The average rainfall of Manchester for the past four years has been 38 in. and the normal rainfall is 34 in. The average mean temperature at Hutton for the winter six months is 42° F., and 55° F. in the summer period. Spring frosts frequently cause extensive damage to early potatoes in the low-lying districts.

ECONOMICS.

By far the most important of the factors determining the character of Lancashire farming is its proximity to the markets provided by an enormous industrial population. The total population of Lancashire is over 5 millions, mostly concentrated in the south and south-east. A population of this size must, of course, import large amounts of agricultural produce, but Lancashire farmers have an advantage in being able to supply readily the more perishable commodities such as milk and produce like potatoes upon which transit charges are heavy if brought from a distance.

Even in the matter of eggs and poultry, of which Lancashire produces many more than any other county in England, Dr. Edward Brown estimates that the consumption is nearly £4,000,000 in excess of the value of the eggs and poultry produced.

In considering the agriculture of Lancashire it is convenient to divide the county into regions in which the resultant of the factors of soil, climate and markets has operated to produce fairly definite differentiations in the system of farming adopted.

THE ARABLE PLAIN.

The plain which lies along the seaboard between the estuaries of the Ribble and the Mersey, and follows the southern border of the county along the valley of the Mersey as far as Manchester, is almost entirely devoted to arable farming. The soil generally is light, varying from sandy to sandy loam and peaty sand, and there are patches of excellent red soil derived from the new red sandstone. There are large tracts of "moss" land, such as Chat Moss, Risley Moss, Halsall Moss and Tarleton Moss. Although peat is still being cut on some of the mosses they have for the most been drained and reclaimed and are generally in a high state of cultivation. Large quantities of manure from Manchester are distributed by light railway over Chat Moss. A century ago on the moss and light land the practice of marling was extensively followed; even up to fifty years ago it was still carried out and old marl pits are very common in the fields in this district.

The principal crops are potatoes and oats, both of which are tolerant of a sour soil and a fairly heavy rainfall. No very strict rotation is adhered to, cropping being largely determined by the manure available, the market demand and the restrictions imposed by the necessity of lengthening the period between the growth of certain crops in order to keep them free from disease. One of the most common rotations is potatoes, wheat, oats and seeds (one or two years); often one cereal crop only is taken, *i.e.* a three-course rotation of potatoes, oats or wheat, and seeds, so that a larger proportion of the land is under potatoes. A common practice on the lighter land where early potatoes are grown is to interplant the earlies with savoy cabbages. These are cleared off the following March in time for a main crop of potatoes, which is followed by wheat or oats, sown with "seeds" to remain down one or two years. It is usual to "box" both early and late varieties of potatoes, and very large crops are obtained on the good farms. The larger farmers usually purchase their "seed" from Scotland and grow it on for two years. Most of the area is scheduled under the Wart Disease Order, so that the choice of main crops is limited to immune varieties, of which Kerr's Pink and Great Scot are the most popular.

Cabbage is a very usual crop here, and the area indicated in the Agricultural Returns as being under this crop, although considerable, is probably very much understated. Cabbage is often planted on land which is occupied by early potatoes at the time the returns are made and the crop is removed during the winter and early spring before the returns for the following year are made. Occasionally a drug on the market, in some seasons cabbages fetch very high prices. At the present time (November, 1929), owing to the failure of crops in the south due to the drought, good crops are fetching about £75 per acre, thus providing some compensation for the poor financial return from the potato crop. Taking one year with another cabbage may be regarded as a very profitable crop.

A new menace to the potato crop in the form of Potato Eelworm has developed rapidly in the past few years, especially on the mossland, and in some districts has disastrously reduced the yield. Potato Blight, which is a much more common disease in the country, does not cause much loss in Lancashire, although the usual preventive measure of spraying is not adopted.

Heavy crops of oats are grown, Victory, Goldfinder, Abundance, and on the moss soils particularly, Marvellous, being the most common varieties. In recent years attacks of Frit Fly have seriously reduced the yields.

The crops of seeds hay are relatively not so good as the other crops in the rotation. They are frequently short of clover and owing to the deficiency of lime in the soil often become full of sorrel. Instead of stacking the hay and subsequently baling out of the stack, many of the larger farmers bale the hay direct from the field without stacking. It is then stored in Dutch barns until it is sold.

When swedes are grown in this area they are generally cultivated for human consumption rather than for stock feeding, although some swedes and mangolds are purchased from this area by East Lancashire farmers and town dairymen for cow feeding.

Little stock is kept and on many of the farms a paddock of 3–4 acres is the only grassland. Hoggs may be purchased for grazing the seeds aftermath, but most of such grazing is let to north-country farmers. In view of the large area under potatoes it is surprising that so comparatively few pigs are kept. The conversion of potatoes into pork would not only provide a profitable market for the chat potatoes, but would enable the farmers to put a better graded sample of potatoes on the market.

The system of farming adopted is to grow all crops for sale and maintain the fertility of the land by purchased animal and artificial manure. At one time, Liverpool, Manchester and Bolton provided most of the town manure, and it was distributed by canal or rail, or brought back to the farms by the wagons delivering produce. Owing to the reduction in the number of horses kept there is now much less animal manure available in the large towns and increasing quantities are being obtained from East Lancashire and Fylde farms, where frequently there is more manure produced than can be economically used on the grassland. One interesting result of the almost complete devotion of the land in the vicinity of Liverpool to arable cultivation has been the exceptional development of milk production within its boundaries. Over one-third of the milk consumed in Liverpool is produced in the city, where about 4,000 cows are kept by town dairymen. Big framed good cows at their third or fourth calf are bought and then sold fat at the end of the lactation.

EAST LANCASHIRE FARMING.

A very different type of farming is followed in the hilly country south of the Ribble between the imaginary Preston, Horwich, Oldham line and the Yorkshire border. This is a great industrial area. The important manufacturing towns of Burnley, Blackburn and Accrington, and of Bolton, Bury and Rochdale, lie respectively on the northern and southern slopes of the Rossendale Fells, and these larger towns are linked up by an almost continuous chain of smaller industrial towns and villages. The soil, generally derived from the drift, but in some cases directly from either the underlying millstone grit or the coal measures, is very poor and deficient in lime. The cultivated land is practically all under grass the quality of which generally becomes progressively worse as the elevation increases, until it merges into the unreclaimed moorland at an altitude of about 1,000 feet. The farms are small, and are almost invariably developed for milk production. As a rule the farmer retails or " kits " his milk in the neighbouring towns and villages and his livelihood is derived quite as much from milk retailing as from milk production.

Considering the poverty of the soil and the short grazing season the farms are heavily stocked, usually about one cow to two acres, although one cow per acre is not uncommon, and both in summer and winter heavy purchases of concentrated feeding stuffs, and frequently of hay, are necessary.

About half the land is laid up for hay, and as a good deal of farmyard manure is produced the meadows receive very heavy dressings, often supplemented by liquid manure or "tank." As a result of these heavy annual or biennial applications of farmyard manure to land so deficient in lime, organic matter accumulates on the surface, the soil becomes increasingly sour, a very indifferent type of herbage is produced and frequently patches of patience dock crowd out the normal meadow herbage. The development of motor transport has made possible the movement of some of the surplus farmyard manure from East Lancashire to the hungry arable soil of West Lancashire, and a number of farmers are now in effect exchanging farmyard manure for lime and phosphates to the great advantage of their grassland.

The most characteristic feature of the grassland is the presence on the surface of a mat of semi-decayed vegetable matter, which inhibits the development of a good pasture herbage. The first step in the improvement of such land is the removal of the mat by applications of lime and by appropriate mechanical treatment, and the improvement of grassland on these lines is being carried out very generally in this area.

Milk production being the farmer's first concern, the resources of the farm, both in respect of grazing and accommodation, must be fully utilised for this purpose; the farmer aims to have as high a proportion as possible of his cows in milk. To secure this he may adopt what is known as the "milk and feed system," feeding the cows heavily with a view to their immediate sale as beef towards the end of their lengthened lactation period. Owing, however, to the wide difference between the cost of newly calved cows and the price received for fat cows during recent years, the system has entailed heavy losses on account of depreciation, and the more general practice now is to buy in moderately priced newly calved heifers or young cows (frequently Irish) which are sold as "lying off" cows after one or perhaps two lactations. These "lying off" cows go to the rearing districts of Yorkshire or Lancashire and subsequently return to the milk-producing areas as newly calved cows. In any case whether the cows are kept for one lactation only or for several, home-bred heifers are not raised on the farms, cows being purchased mainly from North Lancashire and East Yorkshire and also a considerable number from Ireland through the cattle markets at Preston, Hellifield, Salford, and other local markets.

Formerly the demands of the industrial towns, apart from very big cities such as Manchester and Liverpool, for fluid milk was almost entirely met by the local supply; the farmers in the neighbourhood had in effect a sheltered market and so were able to obtain for their milk a price that covered the usually high cost of production. With the development of motor transport and the rapid replacement of crop by dairy husbandry, in many districts the local milk producers are now having to meet serious competition from outside areas where the cost of production is much lower. Few producer-retailers can now be making any profit on the production part of their business.

This district is claimed as the home of the Lonk Sheep, although it shares with the Scotch Blackface and the Gritstone the grazing of the high moorlands.

FARMING ON THE COAL MEASURES.

Between the arable farms of the western plains and the milk-selling farms in the mountain valleys, there is a belt of undulating country where an intermediate type of mixed grass and arable farming prevails. These farms cater mainly for the needs of Wigan, St. Helens and other mining and manufacturing towns in respect of milk, potatoes and other vegetables. The land overlying the coal measures is mostly heavy clay. As in East Lancashire milk selling is the main object of the farmers, but he does not spend so much on purchased feeding-stuffs since he, himself, is able to grow roots and oats for winter feeding. He is also in a position to make much better use of the manure produced on the farm by applying it to his arable land.

A four-course rotation is usually adopted. The potatoes and swedes of the root break are followed by oats or by wheat after the potatoes and by oats after the swedes. This is followed by a "seed" mixture of rye grass and clover which is ploughed up for oats.

As in the East Lancashire area, most of the milk is retailed in the local towns and villages and there is a growing tendency for farmers to dispose of their potatoes and other vegetables to their milk customers.

Much damage is caused to agricultural land by colliery subsidences in this area. Near Leigh, for example, there is an area of nearly 150 acres known as the "Flash," at one time good agricultural land, but now covered by water owing to the gradual sinking of the surface due to colliery workings; subsidences of this kind on a smaller scale are very general in the coal measure area.

NORTH LANCASHIRE FARMING.

The traveller through Lancashire, either by road or rail, passing north through Preston will be struck by the change in the general aspect of the country as soon as he crosses the Ribble. It is not so much in the configuration of the land, for he will still have the hills on his right and the plain on his left, but at Preston he leaves behind the pit-head heaps and the smoky chimneys and continues his journey through nearly 40 miles of Lancashire countryside without passing through a typical industrial town. Rich grassland and luxuriant trees and hedgerows replace the brown pastures, the stunted trees and hedges of the coal measure country through which he has passed between Wigan and Preston, and he will see, for probably the first time since entering the county, sheep grazing in the fields. This scenic change corresponds to a very pronounced difference in the general character of the farming.

Although Lancashire north of the Ribble is much larger and shows greater variations in soil and climate than any of the three districts already described, it possesses certain common characteristics which make it desirable that it should be regarded as one region. The plain which in the south-west provides scope for intensive arable farming is continued north of the Ribble estuary as far as Morecambe Bay, but the soil is quite different and a different type of farming is followed. This region, west of the Preston-Lancaster line, is known as the Fylde. The soil, derived mainly from boulder clay overlying Keuper sandstones and marls, is generally a deep fertile clay loam, but there are considerabe areas of sandy loam and moss land and a belt of sandy soil round the coast. To the east of the Fylde the country rises steeply to the uplands of Bowland Forest or ascends more gradually along the intersecting valleys of the Ribble and its tributaries on the north with the short valley of the Wyre cutting into the centre of the Bowland spur.

This hill region is the continuation north of the carboniferous rocks of East Lancashire, but the Millstone Grit is in part replaced by the Mountain Limestone which is exposed at Clitheroe, where there are important lime quarries, and at Chipping, and north of Lancaster. The soils on the Millstone Grit hills are very poor, but the clay loam and gravels of the valleys make good grass and arable land.

In the Fylde and lowland generally, mixed farming with 60 to 80 per cent. of the land under grass is the rule. Of the root break in the four- or five-course rotation usually adopted on the mixed farms a considerable proportion is generally allocated to potatoes. Blackpool, Morecambe and other coast towns provide a good market for this crop, especially for early and second early varieties, during the summer months.

Except on the light moss soils the land lays down readily to good grass and the process of converting arable to grass land is proceeding steadily throughout north Lancashire.

The chief towns in the area are Blackpool, Morecambe, and Preston, but the two former are only accessible on one side and Preston is on the fringe of the area so that, unlike the east Lancashire farmers, comparatively few in the north have good markets at their doors. In consequence, although the farmers are mainly engaged in milk production there are fewer producer-retailers and the majority must either sell their milk wholesale or make it into cheese. In either case a much lower price is realised for the milk; in consequence the system of farming must be modified to secure returns from sources other than from the sale of milk. It may be pointed out that generally the milk is produced at a lower cost per gallon than on the southern side of the Ribble; the grassland is better and where there is arable land good crops of roots and corn reduce the cost of winter feeding. But the main source of income for the farmer, other than the sale of milk or cheese, is the sale of good cows. On the farms which are mainly grass the practice is to sell the good cows, or at any rate the cows that will fetch a good price at their second or third calving, and replenish the herd by bringing in home-bred heifers. The yield of milk per cow may be rather less than in the case of dairies where milk production is the sole object in view, but the cows are appreciating and not depreciating in value during their lactation.

These North Lancashire farms are an important source of supply of dairy cows for South Lancashire and also the Midlands and the South. Preston is the main distributing centre for the cows, buyers coming from all over the country to the bi-weekly sales.

A branch of the L.M.S. Railway runs down the Lune Valley and many of the farmers in this district send their milk to Bradford and other Yorkshire towns.

It is in North Lancashire that most of the famous Lancashire cheese is made, which as a rule fetches 1*d.* or 2*d.* per pound more than other kinds of cheese in Lancashire markets. Lancashire cheese is a very distinct and characteristic variety and differs from other standard varieties in being made from curds of different ages. It is specially noted as a toasting cheese.

FURNESS DISTRICT.

There remains to be considered the agriculture of that isolated part of Lancashire—cut off by the sea from the rest of the county—known as the Furness district or "Lancashire North of the Sands." It is still true what a writer on Lancashire agriculture said of the Furness district seventy-five years ago: "The face of the country, the nature of the soil and the customs of the inhabitants are quite different to the rest of the county." The northern part of the area is included in the Lake District, Lake Coniston and half of Lake Windermere being within the county boundary. The mountain, moor and woodland of this lake country provide little scope for agriculture. A few cows are kept and heifers reared in the lowlands of the narrow valleys, but the principal agricultural pursuit in the district is sheep farming.

Between the mountainous country and the sea there is a tract of hilly and undulating country where mixed grass and arable farming is carried on. There is a great variety of soils: clay loams predominate, but there is a good deal of freer working gravelly loam and of red sandy loam. There are also fairly extensive areas of moss being gradually reclaimed and in the meantime providing peat for burning. Salt marshes are found on the fringe of the seaboard.

Some of the best agricultural land in Lancashire is found in this area; fertile soils producing, under the influence of the mild, moist climate, heavy crops of corn and roots and first-class pastures. Malting barley was at one time grown extensively, but oats and wheat now form much the largest proportion of the corn crop. Heavy crops of potatoes are grown; Red King and Kerr's Pink are the most popular varieties.

The agricultural prosperity of this area can be traced mainly to the fact that deposits of the richest iron ore in Great Britain are found in the mountain limestone on the south-west of the Furness peninsular. The proximity of these deposits has led to the almost miraculous growth of the very important town and port of Barrow-in-Furness, which is now the principal market for all kinds of agricultural produce. Ulverston—the agricultural centre—and the various seaside and lakeland resorts also provide good local markets.

The rapid development in recent years of the trade in liquid milk has greatly altered the system of farming adopted. Even from the outlying farms, where a few years ago stock rearing and butter-making were the farmers' mainstay, fresh milk is collected by motor.

As in other districts the low price now obtainable for fat cows is causing milk producers to modify the milk feed system hitherto adopted. Dairymen are buying cheaper cows which are being kept longer. The farmer in this district is in a better position than most to adopt a very elastic system, changing his plans according to the state of the stock markets.

This area provides one of the most useful recruiting grounds for the supply of young dairy cows for the milk-selling farms of South Lancashire.

It is not only on the mountains that sheep are important: considerable attention is given to sheep on the lowlands. The most common type is the Wensleydale-Herdwick cross. The half-bred ewes are generally again crossed with the Leicester. Hoggs and draft ewes that do not get fat on the grass are fattened off on swedes.

In no part of the country are there so many types of farming practised within a small area. Farms devoted mainly to milk production, bullock fattening, stock raising or potato culture may be found adjoining each other and hill sheep farms are never far away.

AGRICULTURAL EDUCATION.

The Lancashire County Council makes very generous provision for all forms of agricultural education. The County Council Agricultural School, which was established in 1892 by arrangement with the Harris Institute, was one of the first of its kind in the country. Since that time the work has gradually extended to cover all branches of agriculture in which Lancashire is particularly interested and the comprehensive scheme of agricultural education now in operation receives the full support of the farmers in the county.

The central teaching Institute is at Hutton, about three miles from Preston. Courses of instruction are provided in dairying, poultry-keeping and horticulture, and there is a farm of 300 acres attached which serves both as an experimental farm and to provide milk for the Dairy School. For courses in dairying and/or poultry-keeping, a fee of 6*s.* 8*d.* per week covers tuition and full residence at the Hostel. Instruction in agriculture is still carried on in association with the Harris Institute, Preston. The sons of farmers resident in the county receive free instruction and their travelling expenses if they travel to and from the Agricultural School daily or an allowance towards their board and lodging. No other county makes such generous provision for the sons and daughters of its farmers.

The county work includes lectures in agriculture, poultry-keeping and horticulture, classes in manual processes such as hedging and walling and a wide range of advisory and experimental work.

A comparatively recent development of the educational work has been the formation of Day Agricultural Classes which are held each winter at one or two selected centres in the county. These classes have been enthusiastically supported, an attendance of between forty and fifty young farmers being usually obtained. At the conclusion of the classes the pupils themselves have formed Agricultural Discussion Societies. There are now five such societies in the county, all in a flourishing condition and holding fortnightly meetings for lectures and debates.

Another recent development has been the holding of an annual Open Day at the Farm. On this occasion lecture-demonstrations on various agricultural subjects are given in the different departments and working demonstrations of new agricultural machinery or equipment are in progress throughout the day. The popularity of this event is indicated by the fact that over 2,000 farmers and others visited the farm on the Open Day held last June.

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THE LIVE STOCK OF LANCASHIRE.

THE variety and extent of Lancashire's agricultural and livestock interests are in the nature of a revelation to those who have hitherto only thought of this county as an important seat of the cotton, coal and engineering industries. It is true that in the southern and eastern divisions there are dense populations and forests of chimney stacks to mark the hives of industry, but between the Mersey and the Ribble lies an expansive arable plain, numerous farms are scattered over the coal measures, and in the wide territory from the Ribble at Preston to the Lune at Lancaster, and thence northward to the Westmorland and Cumberland borders there are many mixed dairying and stock-breeding holdings, mostly small and rarely reaching 300 acres, but collectively carrying a large livestock population. Then from the L.M.S. main line, which traverses the eastern fringe of the Lancashire plain, up to the shoulders of the Pennines where the counties of the rival roses meet, there is a host of milk-producing farms, so that whilst millions of inhabitants are directly dependent upon industries that contribute to the smoke zones, Lancashire is entitled to rank with the agricultural and dairying counties.

Official figures as to the stock population support that assertion. The Ministry of Agriculture's returns for 1928 show there were 114,408 cows in milk, 17,148 cows in calf, 10,655 heifers in calf, 3,470 bulls, 60,500 under two years old and more than 21,000 which are officially classed as "Others two years and over," giving a total head of kine of well over 228,000 against 191,854 for the pre-eminently dairying county of Chester. The West Riding of Yorkshire has 268,710 cattle of all ages, a number nearly equal to the combined stocks of the northern and eastern divisions of the broad-acred county, but the cows in milk are fewer than those in Lancashire by 7,000. Lancashire's horses total 32,320, of which 24,944 are used in agriculture. Of the sheep flocks totalling 373,878, nearly 149,000 are returned as ewes, and the 96,000 pigs include 9,508 sows. It will be obvious from these few facts, without delving deeper into statistical information, that this so-called industrial county has a considerable stake in the livestock interest.

STOCKBREEDERS' ENTERPRISE.

"What Lancashire says to-day England will say to-morrow" has been exemplified in farming as in other spheres of enterprise. It may not be generally known that the national scheme for livestock improvement under which subsidised bulls, boars and stallions are placed at the service of breeders had its inspiration in a bull society established in the Chorley district, a few miles south of Preston. The farmers who accepted responsibility for the custody of the sires received grants from a fund raised by voluntary means. During his tenure of office as Minister of Agriculture, Mr. Walter Runciman paid a visit to a Lancashire farmers' gathering and chanced to hear of the local effort to introduce a better stamp of sire, and, on investigating the system of management, considered it worthy of wider application. The outcome was the Livestock Improvement Scheme of 1914, which has admittedly had a most beneficial effect, and the extent of its appreciation by farmers is indicated by the progressive increase in the number of sires placed at service in England and Wales.

In this connection it may also be of interest to recall that the Lancashire Agricultural Committee are believed to be the first public authority in this country to have urged the compulsory inspection and registration of bulls with a view to the elimination of the "scrub" sire. It could not be said that the breeders of the county had a monopoly of this type of animal, but it was known that many milk producers keeping good commercial cattle, but not concerned with rearing, were indifferent as to the type of bull used so long as the effect was to bring cows back to profit. A large number of these animals pass out of the herds in which there is only room for cows in full flow, and go up country where they complete the rest period and calve. Though the dam might be a good specimen of the non-pedigree Dairy Shorthorn this cannot always be said of the sire, and it was with the laudable idea of relieving the market for rearing calves from stock of this description that the County Agricultural Committee was prompted to call for the compulsory licensing of bulls. The idea behind their proposal was not to throw the responsibility for approval or rejection upon an officer of the Ministry, but for each county to appoint panels of stockbreeders who should be empowered to arbitrate. These proposals would have been much more acceptable than those contained in the Bill which the Ministry of Agriculture put forward and finally, in deference to the opposition, withdrew.

It has been argued that the motive behind the scrub bull elimination movement is to give a filip to the trade in pedigree stock. That is an entirely erroneous view. All pure-bred animals are not necessarily good. The term pedigree in the sense that it is usually employed refers to a written record of ancestry, and the value of that record depends upon the use we can make of it ; and intelligent use can be made only where there is knowledge of the characters of the ancestors. It is recognised there are many excellent bulls of unregistered ancestry, and so far as one can gather the feeling of the advocates for this further step in the work of grading up the herds of this county is that symmetrical herd-leaders of this type should be in no way penalised.

MILK-RECORDING MOVEMENT.

There are other directions to which one may point to illustrate the progressive spirit of the stockbreeders of the county. The movement that led to the formation of the Central Council of Milk-recording Societies originated with the Lancashire Milk-recording Society, one of the earliest of the organisations to operate under the rules of the Ministry of Agriculture. The effect of the formation of a central body was to unify the work of these organisations and focus the opinions of the counties upon schemes for mutual advancement. The benefits conferred are already great, and the service rendered to the movement for building up milk pedigrees and increasing the output of the dairy herds of the country will be of infinitely greater value when there is wider appreciation of the manifold advantages of milk recording. Lean years in agriculture have checked the development of the movement, although some will argue it is false economy to attempt to cut down costs on a scheme primarily designed to eliminate passengers from the herd and enhance the value of those animals that have justified their retention. The County Milk-recording Society may have had a few more members than the 114 who made the returns for 120 herds during the year ended October 1, 1928, but financially and in other ways it was never in a more satisfactory position. It should be noted that a number of farmers who withdrew from membership on financial grounds keep the spring balance in use for personal guidance, and this may be taken as a healthy sign for the future when economic conditions are restored to a point nearer the normal. The Society is one of the most progressive of its kind in the country and numerous annual competitions have done much to stimulate interest in its activities. The contests include those for the best herds, large as well as small, for highest individual yielders and cows with the best three years' average, the best stock bull, the best collection of ear-marked young stock, clean milk, and the best kept records by the employee as well as by the owner.

A CALF SALES SCHEME.

During the summer of 1929 the Society launched a new venture by establishing a bureau for the sale of calves and other young stock from recorded animals. Several factors prompted the enterprise. Many farmers near populous areas concentrate entirely upon the production of milk for the liquid market, and have neither the material nor the accommodation to spare for calf rearing. Although many are stockproud and buy commercial dairy Shorthorns of an excellent type, they have hitherto not always been able to sell their calves to the best advantage in the absence of any recognised means of communication with the rearing districts. The Society have now stepped in to bridge the gap between prospective buyers and owners of really smart recorded cattle, who also exercise care in the choice of sires, regarding it as a thousand pities that the progeny of such stock should pass into a market where they lost their identity, and in the absence of knowledge of ancestry were often sacrificed far below their potential values.

As the calf sales scheme is in the nature of an innovation, and as it is designed with the laudable object of placing choicely-bred stock in what might be termed the proper channels, it may be worth recalling the broad principles on which it is framed. They are as follows:—

(1) The sales to be effected by the Society; members to fix a reserve price if desired. (2) The Society to charge 5 per cent. to cover expenses. (3) Only animals of a sufficiently high standard to be accepted, the Secretary being empowered to decide eligibility. (4) Full particulars of breeding to be given with notification for registration. (5) The scope of the scheme regarding the sales of animals other than calves to be left open.

When the scheme was drafted in July 1929, it was understood that only ear-marked stock would be dealt with. Apart from the established pedigree herds recording under the Society's auspices many are grading up through breed societies supplementary registers and have therefore already attained a definite standard of excellence.

The great majority of the herds are built up of pedigree or non-registered Shorthorns, but there are also pure-bred Friesians, two composed entirely of Ayrshires, and one or two in which the black and whites and the reds, whites and roans are mixed. Since the scheme was inaugurated and made widely known the demand for calves has exceeded all expectations, and in fact has been in excess of the supply. It is hoped that as a result of this new enterprise and the remunerative market that has been opened out more owners of good commercial cattle will be induced to come into the recording movement.

DAIRY HERDS.

The tourist in the rural areas of the county to-day will find it difficult to realise that less than a century ago Lancashire was noted throughout the kingdom as the home of Longhorn cattle, the best herds of which were quartered in the Fylde. "Of such repute were they and of such superior quality," wrote Holt in his survey of Lancashire published in 1793, "that that great judge of cattle, Mr. Bakewell, thought proper to make them a source from which he has by crossing, &c., made such improvement. But as the breed has been in a progressive state of amelioration in Leicestershire it seems to have been in an equal state of retrogradation in Lancashire as if overawed by competition and silently yielded to the conqueror. Neglect of the breed may be due to the fact that the pail became the material object, and it is an established fact that animals calculated for speedy fattening are seldom if ever prime milkers, and good points of shape and make are less attended to than the milk vein." The historian also records that the Lancashire breeders of this day were also suffering those of the Midlands to pick and purchase their best animals and lessening the value of their own herds, whilst others made improvements on their purchases on the principles laid down by Mr. Bakewell. Holt cites as an achievement the fact that an 8-year-old Longhorn produced 22 quarts in a day.

If this breed were improved in form and fattening properties its milking powers became impaired and it gradually yielded to the onward march of the dual-purpose Durhams, originally introduced into the county in 1813 by Mr. Jonathan Binns, who, as revealed by his admirable review of Lancashire agriculture, published in 1851, was in touch with the master breeders of his day.

The Shorthorn became established on practically every farm on which kine were kept, although there are still some arable holdings in south-west Lancashire on which cattle have no place. Within the memory of the present generation notable changes have been taking place in the character of the stock, due to the evolution of the Dairy Shorthorn, the elimination of Cruickshank blood, and the strong admixture of the Cumberland and Westmorland dual-purpose types. The Aberdeenshire Shorthorns are now comparatively rare, and I am not aware of a single herd remaining in the county devoted to the raising of purely beef types. Except in a few favoured cases catering for the meat trade has not been a paying proposition for a long time.

Lancashire's large population of dairy stock means that there is always a generous supply of cow beef, and the difference between the buying in price as dairy cows and the figure at which they go to the shambles does not tempt the general farmer to have anything more to do with finishing cattle than he can possibly help. On some of the alluvial soils in the river valleys where the herbage has exceptional feeding properties bullocks are grazed. The majority are of Irish and North Country origin, being brought on as stores in the spring and ripened on the grass, a comparatively small percentage being given the finishing touches indoors. The Scottish system of feeding in covered yards is uncommon in Lancashire in these days, but it is adopted by one firm who have several farms and find the system of alternately stocking these large enclosures with pigs and bullocks fit in with their extensive arable practices.

There are numerous herds of pure-bred Dairy Shorthorns and others are being graded up for the herd book through the supplementary registers with officially checked records of performance. Great importance is attached to this form of herd building as it means the foundation of many more families selected not for reasons of some sentimental association with a remote ancestor of repute but because of physical merit and pail-filling properties.

CALF REARING AND MILK PRODUCTION.

Stock rearing is followed on a much smaller scale than in former days, and the advent of mechanical transport has contributed to the change. During the food control period of the War and for some time following the Armistice, the price of milk made its sale in liquid form much more profitable than calf rearing. With an increasing demand for supplies the dealer's motor began to penetrate remote districts and pick up the kits from farmers who probably had never dreamt of making direct sale of this product. The price, especially in view of the labour-saving effected by handing over the milk at the door, was alluring; and in this way the ranks of stock rearers have been depleted to the general disadvantage of the industry. There are, however, quite a number of holdings catering for the liquid milk market where young stock are brought up to recruit the herds, but the practice is more general on the cheese-making farms of the Fylde, the fell areas eastward of that portion of the Lancashire plain, in the districts surrounding the county town of Lancaster and in the detached north-western corner of the county.

In Ribblesdale and throughout east, south-east and mid-Lancashire there is intensive milk production to supply the teeming populations of the towns and cities, and in very many of the herds, both of the wholesaler and the producer retailer, not a single calf is reared. Cattle are being constantly changed to maintain a level output, and those that have accepted service and considered good enough to be carried on for at least another lactation are sent to the marts where they are bought to go into the upland areas to spend the rest period before returning to the town areas rejuvenated and in full flow.

Irish dairy stock, which are in general repute as "good doers," enter largely into the composition of many of these herds, and another extremely popular imported type is that known as the Scotch heifer, a dainty cock-horned roan, the product of the Shorthorn-Ayrshire cross. These heifers are regularly consigned from Scotland to Lancashire marts and are freely bought by the farmers in the upland areas where light-weight cattle are preferred. Here they are milked for one or two notes and when matured and increased in bodyweight are marketed to the town dairyman who must have cows at their maximum of production.

As indicated in the introductory notes there are several pedigree herds of British Friesians, and in a few instances where there is apparently an indisposition to forsake the ubiquitous Shorthorn entirely the black and whites are being mingled and crossed with the reds, whites and roans. The Ayrshire has one or two supporters, and on the north-western shores of Morecambe Bay there are several pedigree Jersey herds which doubtless date back to the time when butter-making was an important branch of dairying. A farmer at a recent Lancashire show expressed the view that the man who could make a living out of butter-making at the present time deserved a national monument to his memory, but, whatever the financial results, this form of dairying fits in with the methods on some of the Cartmel district farms and the milk from the Channel Islands cattle produce the golden pats that make a notable display at the local summer show.

Notes on milk production would be incomplete without reference to the city dairies or shippons of Liverpool, some of which were in existence when Holt published his agricultural review nearly 140 years ago. Prior to the War the city cow population was estimated at fully 5,000; to-day it ranges between 3,500 and 4,000. The buildings are patterns of cleanliness and the Liverpool City Cowkeepers' Association, which has sought to inculcate high ideals of citizenship amongst its members, works in close collaboration with the health authorities in the effort to produce milk of the highest standard of quality. Many of the finest types of non-pedigree Dairy Shorthorns find their way to these town dairies. Big framed robust cattle are required to stand the strain of intensive production, for the majority never leave the sheds until they have ceased their useful career as milk producers and pass out to the butcher, for whom they are generally fitted by the system of feeding.

One often hears an expression of regret that so many handsome cattle should be sacrificed in their prime and lost to the breeding world. Of late years more cows have been mated than formerly and sent into the country for the rest period, but after months of close confinement the percentage of cows that make themselves fit for another note is not so large as the breeder could desire.

BREEDS OF SHEEP.

The distinct breeds of sheep, though not numerous, are sufficient to indicate the diversified nature of the county, and incidentally remind us of the changing fashions, tastes, and experimental tendencies on the part of breeders. Writing 70 years ago Mr. Jonathan Binns, who introduced the Durham cattle into Lancashire, also claims to have brought the Improved Leicesters into this part of the country from Nottinghamshire and Leicestershire, to have distributed them by his annual sales in various parts of the county and by allowing ewes to come to his rams at one guinea each. The Leicesters falsified the prophecies that they would not stand the climate of the Northern division of the county, and many years later this breed was being catered for in the show-rings along with the Shropshires and Oxfords. Fashions have since changed and for a considerable number of years these breeds have ceased to have a separate classification in the county show-yards, although the rams are still used for crossing in some flocks.

Of the registered flocks the Wensleydales are the most numerous and thrive on good pastures in favoured situations. The rams are widely used for crossing with half-bred ewes representing the product of the Wensleydale tup and the Scotch or Swaledale ewe, so that a large number of lambs coming to market represent the third infusion of Wensleydale blood. There are still devotees of the Leicester and Oxford in the north-western area, and approaching the mountainous districts of Westmorland and Cumberland the little hardy Herdwicks are found in considerable numbers. The origin of this breed is obscure, but according to tradition they are the descendants of a remnant of a cargo of a Spanish vessel which was wrecked on the Cumberland coast. Small in frame and remarkably active, they are admirably adapted for high and rocky pasture and capable of enduring the severest weather.

The compact, good-fleshed Kerry Hill (Wales) sheep represent a post-war introduction into Lancashire, and several small registered flocks have been established. Docility, hardihood and ability to produce early lambs have won them favour, and breeders are finding no difficulty in disposing of tups for crossing.

Perhaps the most notable development of recent years has been the patronage extended to the Suffolk, consequent upon the demand for small joints and the revolt against fatty meats on the part of the industrial populations of the northern towns. In numerous instances the Suffolk has entirely supplanted tups of the bigger breeds as flock leaders, as they cater for the early lamb market and produce a carcass extremely popular with the butcher. The possibility of raising two crops of lambs in the course of a year in this part of the country is being exploited on a small scale by breeders who are experimenting with the Dorset Horn. So far the results have been very encouraging.

THE LANCASHIRE LONK.

In the fell areas stretching from north-east to south-east the Derbyshire Gritstone has a few friends among the flockmasters, but the most widely distributed breed in this portion of the Pennines is the native Lonk. The literature concerning this indigenous breed of the high country of the Lancashire and Yorkshire borders is scant, and as it has received little publicity in comparison with that accorded to most other British types of wool and mutton-producing animals, more than passing notice may be given to it here. Formerly Lonks were much more extensively bred than to-day and those who attended the fairs of 20 to 30 years ago saw very large offerings of excellent quality. For a time, in the view of some of the old breeders, the sheep fell away from their former high standard, getting too much on the leg and narrow about the shoulders and loin. When breeders realised the deterioration that was taking place they set themselves to correct the faults and they are now producing a good type, better in back, shorter on the leg and well endowed with bone.

Large framed and of rare constitution the Lonk has a reputation for longevity, the breed Society's Secretary informing me that he has heard of ewes continuing to produce lambs when nearly 20 years old.

The rams have a commanding appearance, with massive heads and horns which have the spiral formation reminiscent of the Scotch Blackface. One which appeared at several of the shows in 1929 had exceptional scale for the breed. He weighed 397 lb. at the Harrogate Royal and carried a fleece with a staple eleven inches in length.

Lonk enthusiasts question whether there is another breed of sheep possessing a greater proportion of lean flesh or a mountain breed that yields so good a clip, a young flock of shearling and two-shear sheep having averaged 10 lb. per fleece. An average wether will dress out at about 100 lb.

It is the practice to produce pure-bred lambs until the ewes are three or four years old, when they are sold for crossing and adapt themselves to varied types of rams. For the production of half-bred lambs for store purposes the Wensleydale tup is often used, and where early fat lambs are the objective the Down rams are popular, the Suffolk and the Kerry often being the selected mates. The call for lean meat from the mill operatives in the Lancashire towns has recently given a filip to the trade for Lonks and for half-bred gimmers out of ewes of this breed.

The general flock is sent on to the moor in summer, and here they remain to the end of the year unless the weather is exceptionally severe, when they are brought to the lowlands and their pasturage supplemented with hay and corn.

The standard of perfection recognised by the Lonk Sheep Breeders' Association is as follows: Colour—Face pure black and white; legs speckled black and white. Fleece—Firm and even from head to skirtings, free from kemps, and as long in the staple as possible; woolled through horns with a neat tuft on the forehead and woolled to knees and hocks. Tail straight and woolly and skin clean and bright pink in colour. Head—Deep broad face, and good forehead with wool up to the jaws. Horns—In the case of the rams these should sweep well round with a good hump, but be level on top. In the case of ewes the horns should be strong and flat, set wide at the root, well out and wide at the tip, and dip slightly. Legs—Short and clean with hard flat bone and well fleshed above knees and hocks. Body—Neck short and broad; breast well forward; shoulders broad at the top with good girth; ribs well sprung, back and loin broad; quarters square with a good thick tail well set up. Scale of points: Wool and skin, 35; head, 25; body, 20; colour, bone and carriage, 20.

Holt in 1795 and again Binns in 1851 referred to the "Warton or Silverdale Crag" breed of sheep "which occupy the dry limestone district surrounding Warton Crag and extend to Silverdale and Farleton Knott and the surrounding neighbourhood, the herbage of which is short and fine. They are principally horned, have white faces and legs and are an active, hardy race. When fat their weight is from 15 lb. to 20 lb. a quarter, and the mutton is of good quality and little inferior to the Southdown. The fleece weighs from 5 lb. to 6 lb. The sheep are excellent mothers and produce good lambs." This local breed must have been extinct or lost its identity many years ago, as inquiries from time to time have failed to discover any trace of it.

Although the official returns show a large number of wearers of the golden hoof the breeding flocks generally are small, extensive consignments being annually imported into the county, chiefly from the North, for autumn and winter keep.

THE PIG INDUSTRY.

Pigs are far more extensively bred than at any other period in the history of the county. As in sheep, so in the case of the porcine family, fashions have changed from time to time. For many years a white lop-eared pig, often referred to as the Fylde lop, and strongly resembling the type now registered as the Cumberland, was widely distributed. The lop has always had a reputation for thriftiness, fecundity and ability to blend well with other breeds, but the insistent call for the lean-fleshed commercial type has accelerated the rate at which the Large and Middle Whites, particularly the former, have been growing in popular favour, and the Large White is dominant to-day. In several parts of the county, however, the Cumberland boar is still favoured as a crossing pig, producing a good commercial animal when mated with the Large White or the Large Black sow. During the boom period of the War, when several breeds of livestock received wider distribution than has ever been known within living memory, the Gloucestershire Old Spots and the Large Blacks came into prominence and were sufficiently numerous to justify separate classification at the County Show, but to-day it is rare to meet either type, especially the spotted pig, on the farms of the Palatinate. It used to be the practice to feed until weights of 240 lb. and over were attained, but the dislike for excessive fat in the industrial areas and enlightened views on pig feeding have led to a realisation of the wastefulness of the system.

THE POPULAR SHIRE.

Since the formation of the Stud Book half a century ago, Lancashire has made a notable contribution to the history of the Shire horse, and several London champions have either been Lancashire owned or bred. Hundreds of farmers who may not be concerned with pure-bred stock of any other type have an encyclopædic knowledge of the families of the old English cart-horse, and one often wonders why similar interest and enthusiasm is not more frequently extended to dairy stock in the case of which, one would imagine, ability to read the records of ancestry are equally important. The widespread interest in the Shire is explained by the fact that until the horse began to meet severe competition from mechanical traction and steely-surfaced roads imposed further handicaps, the Shire gelding trade was regarded as the sheet anchor of the tenant farmer, for those who could annually offer one or two big sound geldings fit to handle mammoth loads on town and city setts received a substantial contribution towards the rent. These days unfortunately have gone, and there is little prospect of the beast of burden being required in the industrial areas on the same scale that he was employed up to the outbreak of the Great War in 1914. There does, however, appear to be some basis for the hope that this branch of industry will justify a little more attention than it has done for some years. The thousands of horses brought to this country from France and Flanders following the Armistice are now practically worn out. Breeding has been so limited that doubts have been expressed in official quarters as to whether in the near future the supply of team labour will be adequate for the farms alone. Then from the towns and cities there comes a steady demand for the right stamp of commercial horse, which still supplies the most economical form of short distance transport, a fact which the haulage contractors and municipal bodies have established beyond dispute. It used to be said there was no city in the world with such an assemblage of colossal cart-horses as Liverpool, and this probably still holds true, for there are large studs of commercial Shires on Merseyside and their strength is demonstrated in a remarkable way at the annual May Day Parades at which the horse is honoured by a civic ceremonial worthy of the days when he provided the only means of transport on the road.

The Shire classes are still important features at Lancashire's numerous shows and the studs maintained in the Fylde, where massive horses of Shire type were reared long before it became the practice to keep written records of ancestry, indicate that many breeders have confidence in the future, especially if the wheels of industry can once more be set running in their normal course and more men can be found prepared to give to horses the attention necessary for their comfort and enduring qualities. With the passing of the besom-legged type, which came into vogue when a fetish was made of superfluous hair, the carter's task has been eased, breeders for some years having concentrated on securing clean flat bone with silky feather vesturing.

In the northern area of the county the Clydesdale comes into conflict with the Shire, and interesting contests are often witnessed at the local shows where, although there are separate classifications, special awards bring the breeds into rivalry and verdicts occasionally depend upon the casting vote of a referee. The Scottish horse does not progress much further south than the hill areas, and it may also be retorted that his heftier brother does not advance much beyond the line of country which he has held for years. The Clydesdale men point to the quality of bone and well-defined points of their favourites; their rivals emphasise the strength of foot, depth of middle, and powerful couplings of the Shire, and the outcome is that the breeds are occasionally blended in this border country and produce a type of horse very popular with many town users. But for dock work in the cities where enormous loads are piled on lorries scaling up to 2½ tons when empty, the pure-bred Shire is invariably used on the grounds that one must have weight to pull weight.

Lancashire was once almost as famous for light horses as for draughters, but the advent of the motor-car led to the decay of this branch of livestock breeding. A few Hunters are bred north of the Lune, and Hackneys and Hackney ponies have several enthusiasts in the county, some of the most-celebrated animals of these types being in the hands of Lancashire owners.

INTERESTING POULTRY FIGURES.

A livestock review would be incomplete without reference to the poultry industry, no longer a subsidiary but an important enterprise on hundreds of farms. For years it has been a commonplace to refer to Lancashire as the home of the utility fowl. It was here 25 to 30 years ago pioneer work was done in trap-nesting, and by the systematic recording of the egg output of individual birds, careful selection and intelligent mating, strains of prolific layers have been evolved, so that to-day the average egg production has reached a point which, within the memory of the present generation, was regarded as something unattainable. Apart from the specialist breeders there is a large number of farms on which poultry can be counted in thousands, having free range from field cabins. No county has a total of poultry comparable in magnitude with that of Lancashire, and having regard to the vast numbers of birds kept on holdings below one acre in extent and not accounted for in the Ministry's agricultural statistics, it is estimated that about one-sixth of the poultry in England and Wales are contained within the borders of the Palatinate.

In this as in other branches of industry connected with the land Lancashire breeders have shown great enterprise and initiative. They have built up live organisations which wielded great influence for the benefit of the industry generally. For years they clamoured for the marking of imported eggs as a measure of justice and in the interests of honest trading, and the records of the police court—despite the difficulties of securing necessary proofs in many cases—have demonstrated the need for this form of protection for the home producer. Lancashire breeders took a prominent part in the movement for the establishment of the National Poultry Institute.

Lancashire has loomed large in the affairs of the National Poultry Council and the Poultry Parliament and must be given some credit for the fact that the annual register of records of fecund stock is based on the authentic figures of production in laying trials recognised by the N.P.C.

A POULTRY STUD BOOK.

Something unique in the poultry world, either at home or abroad, was the publication last year (1929) of a Stud Book, dealing entirely with stock bred under complete official control. This is the enterprise of the Lancashire Utility Poultry Society, who have established at their International Laying Test Station at New Longton near Preston an official pedigree breeding station on original lines. The scheme has aroused wide interest in the poultry world, and has the official recognition of the Ministry of Agriculture and the National Poultry Council. For the selection of foundation stock the promoters had to rely on the N.P.C. register, the minimum qualification for inclusion in which is 200 first grade eggs for White Leghorns, White Wyandottes, Black Leghorns, Light Sussex, Rhode Island Reds and Anconas, and 180 first grade eggs for all other breeds of hens and 230 2½-oz. eggs for ducks in 48 weeks. No account is taken of second grade eggs in estimating a bird's suitability for inclusion. Hitherto buyers of progeny from birds that have proved of outstanding merit in the trials have had to be content with the assurances of vendors that they are receiving the goods of the "character and quality demanded." In other spheres of stockbreeding, although the seller's word may not be questioned, there is a desire to receive some more definite record of ancestry and the Lancashire Utility Poultry Society has set out to supply this want. Last year, which was the first year of operations, they started with White Leghorns, White Wyandottes and Rhode Island Reds only, these being the breeds most highly developed for egg production and most numerously represented in the N.P.C. register. For the first year the qualification standard was limited to hens officially credited with 215 or more first grade eggs, and no breeder was permitted to send more than three birds. As registered cockerels would not be available until the second year the matings had to be made with unofficial males. For pedigree purposes the eggs from each hen were placed in linen bags on the 19th day of incubation, and on removal from the incubator on the 22nd day weakling and deformed chicks were killed and each strong chick was toe-punched and wing-banded and a record made of each number and toe-punch, so that there was a double check, and the age of any chick could be definitely established. As each batch of chicks reached the age of 10 to 12 weeks they were re-examined and if they had made normal growth and had no obvious deformity, the old wing band was removed and a marked numbered wing band bearing the monogram of the N.P.C. and the year was substituted on the right wing and the left wing was tattooed with the letters A.L., the distinguishing letters for 1929. All breeding stock, both hens and cockerels, were bloodtested for B.W.D. and no reactors were revealed.

This year (1930) the Society have greatly extended their plant to provide for 200 breeding hens. In addition to White Leghorns, White Wyandottes and Rhode Island Reds, Light Sussex, Buff Rocks and Black Leghorns are being provided for on the present occasion and at the time of writing it is anticipated rearing between 3,000 and 4,000 chickens from this registered stock. In the poultry world this scheme of pedigree breeding and for establishing identification of stock from officially recorded progenitors is regarded as of far-reaching importance.

LIVESTOCK IMPROVEMENT SCHEME.

The Government Livestock Improvement Scheme has been generally well supported in the county. Towards the close of 1929 there were 30 bull societies and 36 premium boars were at service with indications that this number would be increased if the grants were on a more generous scale. Lancashire has been so well supplied with a good stamp of Shire stallion that no grants for heavy-horse breeding had been applied for until 1925, but there are now two societies in existence in the Cartmel and Furness districts in the north-western portion of the county. Here the Shire and Clydesdale meet, but in both cases the grants have been taken up for Shires. All the subsidised bulls are Shorthorns, and nearly half of them are quartered in the north-western area. In some districts heavy road traffic militates against the Society receiving full measure of support, and rather than incur the trouble and risks of driving cows to the headquarters of the premium bull quite a number of farmers have adopted the practice of rearing a bull from one of their best milkers and eventually placing him at service with their own herd. The price of labour and overtime rates has also contributed to the keeping of more bulls in the belief that men can be better employed at home than in taking cattle long journeys on risky roads to distant farms. In recalling that Lancashire inspired the national livestock improvement scheme it may also be stated that it was a breeder from this county who pressed the case for the licensing of stallions long before the Horse Breeding Act was placed on the Statute Book.

HAROLD HOLDERNESS.

Hirondelles,
Watling Road East,
Fulwood, Preston.

LUCERNE: ITS VALUE AS AN ARABLE CROP.

A DRY summer like that of 1929 should convince anyone of the value of lucerne as a fodder crop.

Farmers in most parts of England have suffered from shortage of fodder and are looking forward with foreboding to a straitened supply of hay for the winter months. And it is only farmers in possession of a substantial area of lucerne who are in a more fortunate position in this respect.

The 1929 summer was not an ideal one, even for lucerne: on the shallower soils overlaying limestone, in spite of its deep roots, this plant has not been able to find sufficient moisture to yield a normal crop. It must be remembered that in the eastern counties, or in Lincolnshire at all events, the drought has been abnormal, less than half the average rainfall being experienced in the past nine months. In spite of this fact, various fields known to me have produced 2 to 2½ tons of lucerne hay to the acre.

I have grown considerable areas of lucerne during the past twenty-five years, and until five years ago I rarely failed to get a good plant or every year to have established fields that showed a heavy and even crop. The past four or five years, however, have not been favourable to the crop: cold winters and lack of sun in the summer months have reacted disastrously on newly-sown lucerne.

The area under lucerne in England is still small, being about 35,000 acres. Some thirty years ago the area was 5,000 acres, and it rose to 60,000 in 1924, since when the tendency has been retrograde—37,000 acres in 1928 and 35,000 acres in 1929.

On the Continent and in the Americas a much greater use is made of lucerne. In the United States, for instance, the area under this crop rose from 2,000,000 acres in 1899 to over 8,000,000 acres in 1919, due chiefly to the farmers of that country realising the superiority of lucerne over other fodder crops. The degree of superiority is shown by the following table from Henry and Morrison.

	Yield Per Acre lb.	Digestible Crude Protein lb.	Total Digestible Nutrients lb.	Nett Energy Therms lb.
Lucerne Hay .	4,372	463	2,250	1,497
Clover " .	2,624	199	1,336	1,015
Timothy " .	2,340	70	1,134	1,007

Although American lucerne probably shows a better analysis than English owing to more favourable climatic conditions, still there is no doubt that a much larger area should be devoted to the crop in this country. The reasons for this statement will become apparent as this article proceeds.

It seems possible that a considerable use was made of lucerne during the Roman occupation, since the Romans fully understood the valuable capacity of all leguminous plants of increasing the fertility of the soil, and lucerne was much grown in Egypt and Mediterranean countries centuries before Christ.

A passage in Pliny advises the farmer "to sow next year's wheat crop in the field from which he has just gathered his beans, vetches, lupins, or such other crop as enriches the soil."

To the Roman occupation there succeeded a period, lasting for many centuries, when the practice of agriculture was almost non-existent, and as far as I am aware no reference is made to lucerne until the end of the seventeenth century. In 1710 was published an interesting book, called *The Gentleman's Recreations*, dealing with horsemanship, hawking, hunting, fishing, fowling, and agriculture.

In the last section there is a short paragraph on "la Lucerne," which the author groups with the clovers, or "three-leafed grasses." He states that "one acre will serve three horses all year as pasturage, and will soon raise them to flesh and make them fat." Either they had a remarkable variety of lucerne or the winters were very mild two hundred years ago; to-day, neither horse nor beast could maintain itself on lucerne pasture in the winter months.

More interesting is the statement that if lucerne be mown but once a year it will hold ten or twelve years, but if twice a year not so long.

Lucerne is the same plant as alfalfa and is supposed to have come originally from Persia, the word "alfalfa" meaning the best.

The Chinese understood the value of leguminæ as soil enrichers at least 1,000 years before Christ. And it is on record that they grew leguminous crops simply for their manurial value; the crop would be dug up bodily and a compost made of alternate layers of vegetable matter and canal sludge which was subsequently applied to the land.

CHOICE OF VARIETIES.

There are several hundreds of varieties of lucerne; the two most commonly used in this country are Provence and Hungarian, the latter being the most satisfactory, but since the war it has been difficult to obtain.

The Hunter River—an Australian variety—is one of the heaviest yielding varieties, but, although I have grown a small plot of this and it yielded well for two years, I would not venture to say that it is suited to our climatic conditions.

Much investigation is still needed, since it is by no means certain that we have as yet on the market the variety of seed most suited to this country. Again, it is possible that certain varieties will suit certain districts and soils better than others, for example Grimmes' variety, which is in common use in Canada, and which has been tested at Cambridge, is one of the hardiest and can stand cold winters.

Lucerne is essentially a crop for medium and even poor soils. Naturally, a heavier yield is obtained from a medium good soil than from a poor shallow soil, but even on the latter it will yield a greater bulk than any other fodder plant. It thrives well on brashy soils overlaying limestone, but it can be grown on quite heavy clay and on the sandy soils of Suffolk, provided a sufficiently heavy dressing of lime or chalk is given. Even where limestone is present, it is advisable to give a dressing of one ton of ground lime to the acre three or four months before sowing: the young plants must have lime readily available if they are to make rapid growth and send down their roots in search of a further supply of lime and moisture.

If the young plants do not grow rapidly, there is much danger of their getting smothered with annual weeds. Particularly during the past four or five years, I have often noticed fields of lucerne that hardly grew at all during the second year and only started to grow vigorously in their third year. It may be noted here that such fields are often pronounced failures in their second year and ploughed up, whereas if the plants are there in even rows they would recover if the annual weeds were cut, say, in June. This enables the new growth of lucerne to assert itself and dominate the weeds and to yield a good crop by the end of July.

INOCULATION OF SEED.

Another important question in the initial stage is whether the seed should be inoculated or not.

In general terms, the lucerne bacteria are fairly prevalent in the soils of the eastern counties.

In districts where lucerne is introduced for the first time inoculation of the seed may make a great difference. Unless the particular bacteria are present in the soil, the essential nodules do not form, or only form in small numbers. It is in these nodules that the nitrifying bacteria fix and store up the nitrogen abstracted from the air by the leaves of the plant, and it is these nodules which provide the lucerne plant with the nitrogen needed for rapid growth, and at the same time create a reserve of nitrogen for the future enrichment of the soil.

Twenty-five years ago, when I first began to grow lucerne, I obtained inoculin from the U.S.A. Department of Agriculture.

but the effect was not noticeable. Since then, however, the inoculin and methods of treating the seed have been greatly improved.

The experimental work done by Mr. Thornton at Rothamsted has added greatly to our knowledge and, if there be any doubt as to the advisability of inoculation or not, Rothamsted should be consulted.

TIME AND METHOD OF SOWING.

To come now to practical details, well-cleaned land and a fine tilth, a sufficiency of lime and effective drainage are first essentials. Lucerne seed should be sown like small seeds at a depth never exceeding one inch and, like clover, it likes a firm seed bed, hence the necessity of rolling after drilling. Many crops of lucerne fail because the seed was drilled too deep and the bed was not sufficiently consolidated.

An allowance of 28 lb. of seed should be sown to the acre. If it is sown in spring corn the best time to sow is between April 10 and May 10. If sown without a covering crop, then during the first ten days of July. Later sowing than this runs the risk of winter frosts killing the young plants. There is a good deal of controversy as to whether it is best to sow lucerne in corn or by itself. In either case, the rows should be drilled 9 inches apart to permit of cultivating in the autumn and spring. It seems probable that spring sowing with a cover crop suits some lands (*i.e.* the heavier grades) and certain seasons, but in my own case the best results have been obtained by sowing without a covering crop early in July. This method permits of a half fallow and cleaning the land of the first growth of annual weeds. It is the practice universally adopted in the two Americas, where lucerne is drilled in rows 3 inches apart, a method not advisable in this country, since here the great enemy of lucerne is grass, and to keep it in check autumn and spring cultivation is essential. Broadcasting is sometimes successful on very clean land, but the drawback, as in the case with rows 3 inches apart, is that a broadcast crop cannot be cultivated should it require it in later years. With ordinary luck lucerne should stand for six or seven years, giving five or six years of full cropping. The yield the first year after sowing is generally small: it is the second, third, fourth and fifth years that show the big yields.

In the Americas lucerne stands for much longer than it does in this country. As a rule it will be found that lucerne peters out in the sixth or seventh year and that grass takes its place in spite of drastic spring and autumn cultivation. Notwithstanding, one of the oldest fields of lucerne on record is in England, a small flowery field sown over a hundred years ago and still going strong! But it has been cultivated more like a garden plot, and to an extent not practicable with a large area under lucerne; the plants in this field have a dense matted growth due to their age, and look very vigorous and healthy, the tap roots having descended to a great depth.

It is asserted that lucerne roots have been traced to a depth of 60 feet, and even in a six years' lay the roots will go down 20 feet, enabling the plant to tap moisture in substrata and thus resist drought successfully.

At times there has been much discussion as to whether or not the lucerne crop should be allowed to come into blossom. My own experience is that it is advisable to allow two-thirds of the crop to bloom before the first or second cut, otherwise the plants seem to weaken and there is a consequent reduction in their length of life.

Dodder is another enemy of lucerne, and I have heard that a successful way of defeating it is to surround the patch with a thick ring of soot. The tendrils by means of which the dodder spreads can get no hold and the weed dies.

Lucerne has been used as a means of improving poor old pasture. One notable example of this was on heavy clay in Oxfordshire, where some decades ago Mr. Mason ploughed up some poor old grass—which let at a few shillings per acre—and sowed lucerne. The crops of lucerne paid for the whole process, and as the lucerne died out it was replaced by good grasses and pasture was brought into being that let at 30*s.* to 35*s.* an acre.

Since the plant has the power of taking the free nitrogen from the air and storing it up in its roots, until recently it was thought inadvisable to give it any nitrogenous manure; in fact, any such application was supposed to lessen the activity of the bacteria. But during the past few years the claim has been put forward that one or one and a half cwt. of nitrogenous manure helps the plant in its early stages. I have tried giving an application in one or two cases, but no results were visible. An application of farmyard manure, especially on cold land and in a late spring, often has a marked effect. This is probably due to the physical effect (the shelter given by a coating of manure) quite as much as to the chemical effect.

On the other hand, every second year 5 cwt. of superphosphate should be given.

In its second year the crop is ready for green soiling or for making into hay.

LUCERNE AS A FODDER CROP.

As a fodder, the crop is cut and carted to the animals: one man can cut, cart and feed lucerne to fifty animals. On poor, third-rate soil, as already remarked, lucerne will produce a larger crop of green food than any other plant. The following is a good example of the value of the crop for summer feeding.

On a certain Lincolnshire farm (rental 15*s*. per acre) a sixteen-acre field under lucerne carried 54 cows, 20 young beasts, 2 bulls and 8 horses for nine weeks in the summer and for five consecutive years. During the nine-week period, the stock received no food other than lucerne, which was cut and taken to the stock. The richest grazing land in the fens cannot furnish such an example.

Some years ago I made a careful comparison between twenty bullocks kept in a covered yard and fed with green lucerne cut and carted to them, and twenty bullocks kept in a good pasture £2-an-acre land. In each case the bullocks were being finished off. In terms per cwt. the lucerne came out at somewhat less than the grass, since the yield per acre was double. The cattle on the grass land were fed 7 lb. a day of concentrated food, while those feeding on lucerne only received 3 lb. of home-grown wheat meal and crushed oats. The latter group of twenty put on weight more rapidly than the other group, showing an average increase about equal to the Smithfield average.

Milking cows do particularly well on lucerne, since not only is it succulent but contains a high percentage of minerals, especially lime, which has a beneficial effect on milk production. In general terms, it is safer to cut the lucerne and cart it out of the field rather than to allow the animals to graze. There is less danger, in fact very little danger, of the animals "blowing" under this method.

The plant of lucerne may be much damaged if stock are allowed to graze and trample the land, particularly if it is at all soft.

All kinds of live stock will thrive on green lucerne. Even lucerne that is "going off" and hardly worth cutting a second time for hay will provide a valuable amount of green food when all other herbage has failed for want of moisture.

LUCERNE HAY.

In dry form lucerne makes the most nourishing hay of all. It is a valuable substitute for cake, and properly used can reduce the cake bill materially. Taking into account the initial cost and the cost of maintaining the crop over a period of five years, plus the cost of actual haymaking, lucerne hay can be stored in the barn at a cost of under 30*s*. a ton. Two to 2½ tons of lucerne hay are about the equivalent of 1 ton of ground nut cake. The economy that can be effected in the purchase of concentrated food becomes apparent.

A really good field of lucerne in its third or fourth year will yield up to 4 tons of hay in three cuts. Over the period of the five effective years, the average yield of hay would be about 2½ tons per acre per annum. Even in this year of drought, and with somewhat indifferent crops, the yield on my farms has been over 2 tons to the acre, which is a heavier yield than could be obtained from any other crop, having regard to the season and soil.

Making lucerne hay is a simple process, but care is needed. It should not be allowed to remain in swath more than twenty-four hours, or the leaves, which are the most palatable and nourishing part of the plant, will fall off and be lost. As soon as it is well wilted, it should be made into small cocks and finally put into the stack much greener than is the ordinary custom in this country.

About 28 lb. of agricultural salt should be sprinkled over every load as it is put into the stack. This prevents mildewing and overheating.

On the Continent it is common practice to build the stack as follows: a foundation of straw 1 foot deep, then about 3 feet of lucerne; then another layer of straw 1 foot thick, and so on. The straw absorbs any liquid from the lucerne and adds materially to the content of the stack, the whole making most excellent cattle food.

In regard to the cost of lucerne hay, the following table shows about how much it costs per ton by the time it is put before the stock.

LUCERNE COSTINGS. 16 ACRES.

	Per Acre £	s.	d.
First Year:			
Fallow. Ploughed three times at 8*s*.	1	4	0
Dragging and Harrowing. Three times at 1*s*. 6*d*.	0	4	6
Seed. 28 lb. at £6 per cwt.	1	10	0
Drilling	0	1	0
Rolling. Three times at 1*s*.	0	3	0
Liming. 1 ton ground lime	1	5	0
Manure. Superphosphate, 5 cwt. at £3	0	15	0
Rent	1	0	0
Interest at 5 per cent. on £10	0	10	0
Second Year:			
Rent	1	0	0
Interest	0	10	0
Horse Hoeing in spring	0	2	0
,, ,, ,, autumn	0	2	0
Third Year:			
Rent	1	0	0
Interest	0	10	0
Manure	0	15	0
Cultivating. Spring and autumn	0	4	0

	Per Acre £	s.	d.
Fourth Year:			
Rent	1	0	0
Interest	0	10	0
Cultivating	0	4	0
Fifth Year:			
Rent	1	0	0
Interest	0	10	0
Manure	0	16	0
Cultivating	0	4	0
Sixth Year:			
Rent	1	0	0
Interest	0	10	0
Total six years	£16	10	6

MAKING AND CARTING.

	£	s.	d.		£	s.	d.
Cutting	0	6	0				
Turning	0	2	0				
Cocking	0	4	6				
Leading, labour and horses	0	15	0				
	1	7	6	(for three cuts)			
			5				
For five effective years	6	17	6		6	17	6
Total cost per acre					£23	8	0

YIELD.

First Year	Nil
Second Year	3 tons
Third Year	4 „
Fourth Year	4 „
Fifth Year	4 „
Sixth Year	2 „
Total	17 tons per acre.

Therefore cost of 1 ton = $\frac{\pounds 23\ 8s.}{17}$ = £1 7*s.* 7*d.*

The above figures are based on the results from the 16-acre field already referred to. They are interesting as giving some indication of the cost of production, but this will vary considerably with the locality, type of soil, and above all yield of hay.

Some of the costs in the above table will appear low. The costs of the various "farming operations" on this farm *are* low; they have been studied by more than one costing expert and the investigations have shown costs much below the average for the country. This is largely due to the particularly efficient handling of labour. In regard to the cost of ploughing, the soil is light, a double-furrow plough with quick-moving horses is used, and in consequence over two acres per day are ploughed.

The following points will give some idea of its value in the rotation of crops and the economy of the farm.

Taking this time the very low figure of 2½ tons as the average yearly yield over the five-year period, and putting the selling value of hay at the very low figure of £3 10*s.* per ton, the crop would yield £8 15*s.* per acre and on the basis of the above table the cost of production is £1 15*s.*, leaving £7 per acre as profit.

Or looking at it from still another angle, Sir John Russell puts the feeding value of lucerne hay at £5 per ton, or £12 10*s.* per acre for a crop of 2½ tons.

To these figures should be added the residuary nitrogenous value of the crop, which should not be put at less than £2 per acre.

These figures demonstrate that lucerne shows a better monetary return than most crops in these days of depressed prices. But a monetary estimate can hardly be made of the value of lucerne as an insurance against drought. In some years it can make *all* the difference to the farmer in regard to his supply of fodder.

Having indicated the value of lucerne, both as a green and dry food for stock, its effect upon the soil itself may be briefly considered. Lucerne, in common with all leguminæ, but to a greater extent than any other, possesses the power already referred to of storing up nitrogen in the fine nodules which are to be found on the roots of every healthy plant, so that a supply of nitrogen that costs the farmer *nothing* is put into the soil for subsequent crops to draw upon.

Nitrogen is essential to the growth of corn crops and roots, and especially to their *rapid* growth: and it is the most costly of all ingredients that the cultivator has to put into the soil by means of dressings of farm-yard manure or artificials, or both.

The nitrogen in farm-yard manure, improperly kept and handled, is lost. A dressing of nitrate or sulphate of ammonia may be largely washed out of the soil by a deluge of rain, or it may remain undissolved and ineffective in a time of drought. Not so the nitrogen provided by the lucerne plant, which is released gradually over a period of years as the roots decay.

At the end of its time, when the lucerne is ploughed up, it has added not only nitrogen but a large amount of humus to the soil, so that while it is a paying crop in itself, it also supplies two important ingredients of which our soils are generally deficient.

While all this is common knowledge, it is still necessary to insist upon it since even to-day some farmers have the impression that lucerne exhausts the soil!

It has been estimated that a successful lay of lucerne will store up nitrogen equivalent to one ton of sulphate of ammonia. Another generally accepted view is that a five-years' lay of lucerne stores up sufficient nitrogen for five subsequent crops of corn. Sometimes it does much more than this; for example, the 17-acre field of lucerne already referred to was ploughed up eleven years ago, and the subsequent cropping has been as follows: barley, mangolds, barley, oats, turnips, barley, oats, barley, oats, barley, oats; this year's oat crop, even making allowance for the drought, has clearly exhausted the fertility stored up by the lucerne.

But taking the previous ten crops, it is no exaggeration to say that they have yielded a full 80 per cent. beyond the average normal yield for the land. The oats, saving this year, have threshed ten quarters to the acre, and the barley nearly six.

This is a good example of the way in which lucerne may be used to defeat the Law of Diminishing Returns, since the increase was gained not only without the aid of increased expenditure, but actually at a reduced expense.

The after-effects of the lucerne saved 25*s.* per acre on nitrogenous artificials, which would have been expended if no lucerne had been grown in that field. Further, the large supply of nitrogen in the soil so hastened the spring growth of the corn that the weeds were smothered and expenditure on cleaning was reduced. That field remained during the ten seasons the cleanest field on the farm.

It can now be sown again with lucerne, since to avoid risk it is wise to give the land an eight or ten years' rest before coming again under lucerne.

The results from the experimental plots under the direction of the Rothamsted Station, which are scattered over an area reaching from mid-Scotland to Cornwall, and in a few cases situated as far west as the sea-coast of Wales, show that lucerne can be grown on a much wider range of soils and in districts formerly considered unsuited to the crop. I have seen very fine samples of lucerne grown in Ross-shire, and the North of Scotland College of Agriculture has carried out some interesting experiments and obtained very good results. In one case 18 tons of green lucerne was obtained during the summer. But it seems doubtful if this crop can become of general use in Scotland, since except under special soil conditions the amount of rainfall seems to be a governing factor, and the American view is that the plant will not thrive where the rainfall exceeds forty inches per annum.

It seems to me that lucerne may also prove a valuable adjunct to the new intensive method of treating grass.

Under the intensive system, the result from scientific grazing and the application of artificial manures is to greatly increase the feeding value of grass and to extend the grazing period considerably.

It is well known that grass contains its highest nutriment value when it is 3 or 4 inches long. After passing that length, its nutriment co-efficient rapidly declines. With intensive grazing it is possible for the stock to consume the grass when in the stage of its highest nutriment value; but it is, so far, impossible to preserve grass in this stage. It is true that on a small scale grass 3 inches long has been cut and pressed into cake that analyses as rich as linseed cake, but it is hard to see how this can be done on a commercial scale.

The better plan will probably be to use the intensive system for grazing and to use lucerne for providing the winter hay supply and for a reserve of green fodder in time of drought.

Again, in the new method of out-of-door dairying devised by Mr. Hozier, I think lucerne could play an important part in providing hay for the winter, and I fancy Mr. Hozier would have welcomed a few fields of lucerne in 1929 to fall back upon when his high grass land failed to produce its herbage.

To sum up: once it is established lucerne is one of the most certain of crops; a bulky yield is forthcoming in dry as well as in wet seasons. It should be regarded as a sound form of insurance.

Valuable alike as green food and as hay, it possesses the power of improving the land and charges the farmer nothing for the process.

It is for these reasons that lucerne deserves more attention from the English farmer than it has received heretofore and a much larger area devoted to its growth.

CHRISTOPHER TURNOR.

Stoke Rochford,
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PASTURE-MAKING IN THE SOUTH-EAST.

ACCORDING to the Agricultural Returns for 1929 there are about 18 million acres of grass in England and Wales, of which 15½ million acres are classed as permanent and the remainder as clover and rotation grasses. In addition there are nearly 5¼ million acres of rough grazings, which might also be classed as permanent.

Meadow and rotation hay accounts for nearly 6¼ milllion acres, so that, exclusive of rough grazings, rather less than 12 million acres are devoted to pasturage.

If we take the numbers of horses, cattle and sheep and apply thereto the conventional equivalents we get a figure representing

9 million mature cattle for dealing with 12 million acres of pasture (exclusive of rough grazings) and about 6¼ million acres of hay, equal to 1⅓ acres of grazing and about 1 ton of hay per beast.

Even if aftermath and rough grazings are taken into account the figures mentioned do not indicate that our grassland as at present farmed is greatly understocked; rather that if stock-farming is to be further developed, grassland, including the meadows, must be made more productive, or greater use, in this connection, must be made of arable land.

Of the total area of permanent grass a very large proportion is so old that no record exists of how it was formed. There is, however, very little evidence of pasture seeds having been sown as a regular practice before the time of Coke of Norfolk, about 1778. Prior to that date grassland was probably for the most part self-sown. Prothero (*English Farming, Past and Present*) records that if meadow or pasture wanted renewal, or arable land was to be laid down to grass, farmers either allowed it to tumble down or threw indiscriminately on the ground a quantity of seed drawn at haphazard from their own or their neighbours' ricks. Coke was the first to appreciate the value of the distinctions between species and he set the children of his tenantry to scour the country and, by hand-picking, procure his stocks of seeds. He abandoned the local custom of three white crops in succession and took only two, keeping the land in grass for the two following years. Two and three-year leys of rye grass, white clover and trefoil were quite common in Norfolk and elsewhere along the east coast in the last quarter of the eighteenth century. The use of cocksfoot soon followed. Arthur Young states that Mr. Overman (of Burnham) sowed about an acre of cocksfoot "on the dry, gravelly part of his farm, just above the marsh." The report continues: "This spot was the only one in a large field that did not burn in the severe drought of 1800, and convinced him of the excellence of the grass."

During the whole of the eighteenth century the demand for wheat was increasing: the population doubled and imports were still practically negligible. Wheat cultivation was profitable and with the introduction of turnips and red clover the four-course rotation modified on the lighter lands so as to include grass for two or more years rapidly spread. It was, at once, the best means of keeping the land clean and enriching it for the growth of corn. The four-course system is still the basis of arable farming throughout most parts of the country, but its extension to include leys of over one year's duration, while common in East Anglia up to about 1850, is now restricted more to the stock-raising than to the corn-growing and stock-fattening districts, that is to say, to the North and West rather than to the East. With the decline in corn prices and the rising costs of labour, individual farmers here and there throughout the Eastern Counties have again turned their attention to grass, and it is now easy in that region to find instances of modern seedings intended either for permanent or for temporary purposes.

In *Rural England* Rider Haggard describes the system adopted by the Earl of Leicester on his Holkham estate of laying down poor light land to grass that was used for sheep-walks for 16 to 20 years, after which it was broken up, put through a course of cropping without manure and then again laid down. The mixture of seeds used was quite simple and included cocksfoot (in greatest quantity), Timothy and perennial rye grass.

The addition of wild white clover to the list of available seeds has, within the past twenty years, mitigated or removed many of the difficulties associated with successful pasture-making, and the process now involves practically no greater risk of failure than the taking of one-year " seeds."

So serious, however, is the depression in the principal corn-growing districts of England, and such is the financial stress, that farmers often express the intention of letting the land tumble down to grass. It seems well therefore to examine this aspect rather carefully.

Following the depression of the 80's and 90's of last century the use of seeds in pasture-making was, in many cases, dispensed with, and nature, which " abhors a vacuum," speedily filled the gap. But nature is not concerned with the complex requirements of the grazier: she merely sees that the soil is clothed with those species of plants which, according to its condition, it is best fitted to support. It is the art of the husbandman to subdue and reinforce nature, and if his methods are to stand a chance of success the process of control and reinforcement cannot begin too soon. From the grazier's point of view an ideal pasture is one which starts growth early in spring, remains green and growing throughout the summer and autumn and as far into winter as climatic conditions will allow. Such a combination of characters connotes a variety of species which seldom or never make a spontaneous appearance in a sward. Many self-sown pastures, particularly those formed on exhausted corn-lands, consist largely of bent (agrostis) which starts growth late in spring, and after a few weeks tends quickly to run to seed, thereafter to constitute only starvation diet. It is, of course, well known that the botanical composition of even such a primitive pasture as that indicated is seldom constant for long. Fertility gradually accumulates. In 20 years a portion of Broadbalk field at Rothamsted, left entirely uncultivated, appears to have gained nearly 98 lb. of nitrogen per acre. In such circumstances a higher order of plants gradually makes its appearance indigenously. So long, however, as the "low-fertility demanders" are dominant in the herbage improvement is difficult. Grazing stock prefer the better plants, with the result that the poorer are neglected and tend to maintain their ground both vegetatively and by self-seeding. If, however, bent is trodden hard and prevented from seeding its vitality is gradually weakened and other plants which love the light and prefer firm ground, *e.g.* crested dogstail, perennial rye grass and wild white clover, will usually secure a foothold and, if encouraged, will slowly replace bent. Improvement is further expedited by dressings of phosphate and, sometimes, potash as well. Clovers often spring up in profusion. The soil is thereby enriched and is enabled the better to carry certain of the more valuable grasses. In a favourable summer, rather moist than otherwise, such an improved bent pasture may do very well. Its weakness, however, is apparent in a drought. The best drought-resisting grasses, *e.g.* Cocksfoot and Timothy, seldom appear spontaneously, and if they do they are relatively "spot-bound": they do not spread much. Moreover, such a pasture is of little value for winter-grazing. White clover which may have given an impression of luxuriance in summer dwindles to insignificance by the late autumn, and it takes many years for winter-green grasses (perennial rye grass, crested dogstail and the meadow grasses) to dominate the herbage.

In Romney Marsh are excellent pastures which in all probability were originally self-sown. They are composed largely of perennial rye grass, the other grasses just mentioned and wild white clover, and so close and dense is the sward on the naturally fertile soil that they can successfully withstand long spells of drought. In this district the art of grazing, the stocking and management of pasture, the collaboration of man and nature are seen at their best. Grassland of similar character and quality is to be found in Leicestershire, and it is probably of similar antiquity. The Vale of Belvoir, at one time the richest corn district in the country, was practically all in grass at the beginning of the eighteenth century. It takes years to establish a good-wearing sward in a dry district.

At best the lower rainfall of Eastern England only allows of limited summer grazing: accordingly it behoves farmers in that region to exploit to the full their comparatively mild and open winters. They must encourage winter-green species. To provide appreciable store keep during the winter, a certain amount of roughage is essential, but this, preferably, should be leafy roughage derived from aftermath rather than the stemmy roughage resulting from uneven grazing or understocking. Pastures are all the better for being "bared off" once in a season, but so far as is practicable this should be done in late summer rather than in winter, and the fresh autumn growth might be reserved for winter use. If a pasture is allowed to become unduly coarse at the period of maximum growth the taller, more aggressive species tend to crowd out the finer, "bottom" plants.

TUMBLE-DOWN AND SOWN PASTURES.

As between letting a pasture fall down to grass and sowing it down the only point in favour of the former is its cheapness. As, however, the abandoned field will almost invariably be one which has been continuously under corn or other annual crop the vegetation likely to result will be mainly "twitch" and other weeds. There will not be even a nucleus of useful herbage, and although as a consequence of mowing, manuring, cake-feeding, and perhaps even such expedients as night-folding useful plants may gradually secure a footing, the process is too slow and too haphazard for modern requirements. The position is different in the case of an old pasture broken up and soon afterwards let go to grass. In such circumstances there is a reserve of seeds and even of plants of a useful character that sometimes succeeds very quickly in reconstituting a pasture turf. If the ploughed-out sward contained even a sprinkling of wild white clover, a dressing of slag, the value of which is enhanced by thorough incorporation with the soil, will quickly bring about a reinvigorated growth of this invaluable pasture-maker. This method of forming a sward is akin to the ancient practice of "inoculation" still common about the middle of the nineteenth century. Strips of turf were ploughed out of the best pasture field available and cut up into small pieces a few inches square. During damp weather, in September or October the little squares of turf were laid out at short intervals in rows made by a corn drill in a prepared field and afterwards trodden in. In spring some Dutch clover was broadcast and rolled in, after which the whole was allowed to seed itself and was then stocked in autumn.

In forming a new pasture, nowadays, a farmer cannot afford to dispense with good seed and adequate manuring. Where he can save, if save he must, is in the cleaning of the land. It is not necessary that every little bit of "couch" or "twitch" should be removed. Couch is essentially an arable land weed and does not survive for long under pastoral conditions, and a little twitch or bent is easily controlled. It is interesting in this connection to recall the evidence of the late Sir John Lawes before the Royal Commission on Agriculture in 1893. Referring to land he had sown down to grass he said:

"I did not spend much in laying it down: I did not go to the expense of cleaning all the weeds out, and fallowing the ground and all that sort of thing. I consider if you manure the land well all the best grasses will drive out all the weeds and bad grasses." In answer to the question, "What do you consider to be the most economical way of laying the land down to grass?" his reply was: "I have always laid my own grassland down with a barley crop, and after that I have depended entirely upon feeding (sheep) with cotton cake: and that is the way in which I think I can get my land into pasturage better and cheaper than by any other process."

Many practical farmers and experts would, to-day, bear out that testimony. It comes to this: allowing exhausted cornland to fall down to grass cannot be justified on the score of economy. If farming is to be pursued at all the cost of the requisite seeds will be amply repaid.

Now comes the question of the most suitable seeding and the conditions best calculated to ensure success according to the end in view.

THE EAST OF ENGLAND.

Let us consider the matter from the viewpoint of the farmer in the east of England where the rainfall, particularly in spring and summer, is lower than in the north and west, and where the soils, generally, are of heavier texture. Pasture-making in such circumstances is more difficult, and as far as the south-east is concerned the invaluable lessons of Cockle Park, Aberystwyth, and other experimental stations, have, as yet, been but sparsely applied. The ideal to aim for is green grass all the year round, for the east has this advantage over the north: its winters are less rigorous and more open and cattle can to a greater extent be wintered out. Outwintering, however, implies adequate field drainage, and its extension will in many cases depend on the use of the mole plough. Assuming, then, that the land is reasonably dry, winter-green grasses, such as perennial rye grass, crested dogstail and meadow grasses, are very valuable. Cocksfoot, also, is important for it starts early in spring and makes considerable leafy aftermath: perennial rye grass makes good autumn growth. The outstanding grass, however, for late autumn, winter and spring growth is Italian rye grass. Clovers are of little significance during the winter. Wild white clover, however, is invaluable during the summer, and red clovers are important in late summer and autumn. Some of the latter, such as Montgomery and Cornish Marl, are specially useful late in the season and they are more persistent than ordinary Red.

Suitability for soil conditions is a matter both of species and of strains. Indigenous Cocksfoot is more persistent and is suited to a wider range of conditions than Danish Cocksfoot, and failing the former, New Zealand Cocksfoot is generally to be preferred, being more leafy and less inclined to exhaust itself in seed production than Danish. Crested dogstail is better suited than rough or smooth-stalked meadow grass for poor land. Of the clovers the later flowering reds will thrive under poor conditions better than broad red, and wild white is adapted for a much wider range of soils than either Dutch or New Zealand white.

Preferably the land should be in good "heart" before being sown away, but this is not essential provided the young ley is generously treated after the nurse crop is harvested. In sowing, it is, of course, imperative that the seeds be covered properly. As a general rule they do best when sown under a spring crop provided the tilth is sufficiently "tight," but a suitable spring seed-bed can also be secured on autumn-sown cereals, although in this case, to secure the requisite covering, it may be necessary to drill the seed. Broadcasting is preferable to drilling because the ground is then more evenly planted, individual plants have more room and dense sward formation is facilitated. But an adequate covering after broadcasting is not always practicable, and it is then one misses a close-spaced drill such as is used in Denmark. Sometimes in the south-east of England autumn sowing is practised, but in such cases the sowing should not be long delayed as clovers, particularly, require to be well established before winter sets in.

The young sward should be properly consolidated as soon as possible, and it is always well to roll in the spring. Strong autumn growth, as of clovers and rye grasses, should be controlled by light grazing, otherwise the slower growing species are apt to be overshadowed and crowded out. Intermittent grazing and putting up to hay late provides some valuable keep at a time when this is usually scarce and, moreover, constitutes, in general, the best means of starting a pasture on its career. In any event it is advisable to take a hay crop in the first year, and this should be cut before seeds begin to form.

SEEDS MIXTURES.

Only such mixtures as are suitable for three-years' ley will be dealt with as these are also equally suitable for permanent pasture, and they may be classified according to the purpose for which they are intended, (1) hay and grazing, each year, and (2) hay as the primary consideration.

HAY AND GRAZING.

Leys of this kind are intended to be put up late and to give a moderate yield of leafy hay, after which intermittent grazing will be adopted on the aftermath and throughout the winter and spring. Such a system is well adapted for sheep grazing where water is short or not available; it provides for earlier and more abundant spring keep than old pasture: it admits of the field being laid up for hay when keep is usually abundant elsewhere and it enables a leafy hay crop to be taken which if well got is rich in protein and more valuable as winter feed than ordinary hay. It is also the plan adopted for obtaining a crop of wild white clover seed: thus the farmer has the chance both of an occasional cash crop and of a valuable supplement to his supplies of winter fodder.

By allowing the plants an opportunity for full development the persistency of the higher yielding species, *e.g.* Cocksfoot, is favoured, and by resting the aftermath for a period leafy rather than stemmy growth is available for winter keep. For wintering cattle a certain degree of "roughness" is practically essential, but sheep thrive best on short green grass. In circumstances not suited to the production of wild white clover seed or where this is not an important consideration a liberal, all-round manuring may be given so as to encourage high productivity. A complete dressing of artificial fertilisers or of farmyard manure if given after the hay crop is off, when root development is at its maximum and growth is still active, favours autumnal growth and winter greenness and makes for an early start in spring. Where land is naturally dry or well drained so that water does not run off the surface the risk of manurial loss is negligible.

The type of mixture that might be used for the purposes indicated would be on the following lines:—

	Lb. per Acre
Italian rye grass	= 4
Perennial rye grass	= 14
Cocksfoot	= 10
Timothy	= 4
Rough-stalked meadow grass . . .	= 1
English broad red clover	= 1
Late-flowering red clover . . .	= 2
Wild white clover	= ½—1

About half of the perennial rye grass should, if possible, consist of seed cleaned from wild white clover. Cocksfoot might be partly Danish and partly of the leafier New Zealand strain. On poor land crested dogstail might be substituted for rough-stalked meadow grass. Late red clover might be partly English and partly Montgomery. Where wild white clover tends to appear indigenously a seeding of ½ lb. will be ample. The establishment of a sward is more difficult in the drier conditions of the east than in the west, consequently the general seed rate must be liberal.

The above mixture does not differ greatly from what is known as the standard Cockle Park recipe and which has generally given satisfaction wherever it has been tried. Italian rye grass and rough-stalked meadow grass (or crested dogstail) have been added—the former with a view to giving late autumn and early spring keep in the first year or two and the latter to fill up the bottom and improve the winter stock-carrying capacity of the pasture. Italian rye grass is generally regarded as inimical to clover, but this tendency is effectually controlled by the system of grazing recommended.

HAY MIXTURE.

For the main supply of hay it is generally advisable to proceed on different lines from those applicable to pastures. What is needed is a large bulk of leafy herbage. Preferably this should consist partly of legumes and partly of grasses, but where the mixture is intended to be of a permanent or semi-permanent character this ideal is not easily attained. Where the object is bulk and where the manurial treatment is directed to that end legumes tend gradually to disappear. If, however, the components are selected with care and judgment and a balanced system of manuring is followed a heavy yield of mixed herbage should be obtainable for at least four years. Beyond that period the policy, generally, should be stimulation of the grasses with just that degree of control as will permit of a bottom growth of wild white clover. An annual dressing of a complete mixture of fertilisers such as 1 cwt. sulphate of ammonia, 2 cwt. superphosphate, ½ cwt. of steamed bone flour and ½ cwt. of muriate of potash per acre, or equivalent amounts of manurial ingredients in other forms, accompanied by early mowing, will go far to achieve the objects in view. An occasional alternative dressing of dung, if available, and slag would generally prove advantageous.

One of the most convincing demonstrations at the Saxmundham Experimental Station in Suffolk, on typical East-Anglian boulder clay, is that devoted to seed mixtures for hay only. Half a field of very old grass has been treated regularly for many years with artificial fertilisers of various kinds for the purpose of producing meadow hay. Although a certain degree of improvement is perceptible, in no case is the hay crop ever a heavy one, and for the reason, apparently, that leafy or bulky grasses that might be expected to respond to manurial treatment are not present to any extent in the herbage. Clover has spread as a result of the manurial treatment, but the more valuable hay grasses have failed to make an appearance. The other half of the field therefore was ploughed out and, in 1926, was laid away with various hay mixtures. In 1927 more than 5 tons of hay per acre, in two cuts, was harvested off some of the plots, and in 1928, 53 cwt. The plots look like yielding good crops for many years if suitably manured. The most striking plot of all was sown with the following mixture :—

4 lb.	Perennial rye grass
4 ,,	Cocksfoot
10 ,,	Lucerne
2 ,,	Red clover
2 ,,	Alsike
½ ,,	Wild white clover.

Lucerne was prominent in the first year, after which it diminished considerably, but the grasses thereupon grew out strongly.

Perennial rye grass, late red clover and wild white clover gave heavy crops for two years, and mixtures containing Cocksfoot and Timothy show up well in the third year. Generally it would seem safe to assume that, for a heavy, leafy hay crop, perennial rye grass, Cocksfoot, Timothy and rough-stalked meadow grass or wild white clover to fill up the bottom would make a suitable mixture for land of this type.

Apart from Saxmundham, experiments with hay mixtures of this type have mainly been confined to Wales, where Professor Stapledon recommends for the widest range of conditions :—

Cocksfoot	16 lb. per acre
Late-flowering red clover	6 ,, ,, ,,
Wild white clover	1–2 ,, ,, ,,

The standard Cockle Park pasture mixture has also been successfully used for hay production here and there throughout East Anglia, and except on the lightest soils, where it soon deteriorates, it remains productive for just so long as it is well treated. The following is the mixture :—

Perennial rye grass	16 lb. per acre
Cocksfoot	10 ,, ,, ,,
Timothy	4 ,, ,, ,,
Single cut cow grass . . .	4 ,, ,, ,,
Trefoil	1 ,, ,, ,,
Wild white clover	1½ ,, ,, ,,

For hay, however, it may be doubted whether anything is more valuable than pure lucerne where it can be depended upon. In this connection more information is wanted in regard to the most suitable varieties and strains and, generally, as to the manuring, cultivation, and management of the crop. Provence, Grimm and English-saved seed appears to be the most reliable : on the other hand, South African seed has frequently proved disappointing. When sown under a "nurse" crop, or where lucerne had not previously been grown, inoculation of the seed with a culture of the appropriate root-nodular organism has generally proved a great advantage.

In cases where land is sown away to leys or lucerne full benefit will not be derived from the system unless in due course such land is brought into the arable rotation. From the economic point of view it seems desirable that part at least of the gathered fertility should be cashed directly in crops rather than that it should be allowed to accumulate indefinitely for conversion in the form of meat or milk. Additional organic matter or humus makes for "tilth" on our corn-lands and leads to higher yields of both cereals and roots. Nothing is better calculated than humus to raise the tonnage of beet and establish the industry on a sound basis.

Two main objections are commonly raised to rotational leys of the kind suggested: (1) the risk of regular re-establishment and (2) the danger of wireworm. As regards the first failure to obtain a plant is unlikely to occur more frequently than with one-year seeds: if and when it does occur the section due for ploughing up may generally be left down with safety for another year. As for wireworm, this pest is not usually troublesome on roots or mixed corn such as beans or peas and oats, while a further advantage in respect of a bean and oat mixture is that no matter how rich the soil the crop will stand up and give a large output of protein-rich food that should go far to make a farmer independent of purchased concentrates.

J. G. Stewart.

Lodge Farm,
Aston Clinton
Bucks.

THE GRADING OF HOME-PRODUCED CHEESE

This is not an occasion when space can be spared for a full discussion of the bearing of successful cheese marketing on the success of milk marketing. It could be shown that the two industries are interdependent. Cheesemaking is the only substantial alternative in the country to milk selling; it follows, therefore, that the price obtainable for cheese has a reflex action on the price of milk. Before the War, the prices obtainable by producers for these two commodities were, after making allowance for transport, &c., always pretty much on a parity, but the control exercised during and after the War temporarily destroyed that parity. Following the termination of the control period, the disparity between milk and cheese prices was maintained for a time, but, just as truly as water, freed, finds its own level after a passage of time, the re-establishment of parity could not be resisted and has now been almost completed.

It may be claimed with justification, therefore, that helps and hindrances to the marketing of home produced cheese are of direct interest and importance to the whole dairy-farming industry of this country. But sufficient has been said to explain the reason for this article.

The home cheesemaking industry is divided into groups in accordance with the variety of cheese manufactured. The number of varieties of cheese produced in this country is considerable, so it follows that there are many groups of cheesemakers. There are two groups, however, namely the Cheshire and the Cheddar, which are larger than all others, because the manufacture of Cheshire and Cheddar Cheese greatly exceeds the sum of the remainder. These two sections of the cheese industry have, during the last few years, been exercising a measure of self-help which is entirely commendable, and in order that the bearing of the action which has been taken may be better appreciated, a few notes regarding the position in which the Cheshire and the Cheddar industries stand may be given at this stage.

The real home of the Cheshire Cheese Industry is Cheshire and the surrounding counties of Staffs, Salop, Denbigh and Flint. In a spasmodic way it is carried on in other parts of England and Wales, but Cheshire—the county in which the process of manufacture was originally devised—may be regarded as the "hub" of the real Cheshire industry. Other countries have studied and adopted the Cheshire process and are, as a result, producing so-called Cheshire Cheese; in some cases, the most notable of which is Holland, the product is being exported to this country.

Cheddar Cheese similarly had its origin in Somerset, more especially in the district from which it took its name. The home industry may now be divided into *two* sections—namely, the English and the Scots. Somerset, and the neighbouring counties of Dorset and Wilts, continues to be the chief centre of English Cheddar manufacture, whereas the south-western counties of Scotland are the seat of the Scottish Cheddar production. The universal popularity of Cheddar Cheese has led, as in the case of Cheshire, to the process being copied and practised in almost every country in the world where cheesemaking is possible as an industry.

The copying of the Cheshire and Cheddar processes has been allowed to go on without protest for so long that the names have come to be regarded as applying to the respective variety of cheese and not to cheese manufactured in, or immediately adjacent to, the respective places of origin.

The neglect of the originators to protect the use of the respective names has resulted in the home producers of to-day having to contend against forms of market competition that are detrimental to their industry.

The position of the home producer in regard to this competition would not be so unsatisfactory as it is if the alien cheese sold under the names of Cheshire or Cheddar were always of a quality that really justified the use of the name, but such is far from being the case. The truth is that much cheese is sold as Cheshire and as Cheddar which really brings discredit to those names; the result is that disappointed consumers become disgruntled and in consequence turn their attention to other varieties.

We Britishers are ranked amongst the heaviest cheese consumers in the world, and the British market consequently receives the closest attention of all exporting countries. We fall a long way short of being self-supporting in the matter of our cheese supplies. Indeed, the value of our imports is computed to be three times as great as the value of all we produce at home.

Our Overseas cheese competitors have been quicker than we have been to appreciate and act upon the advantage to be gained in our markets by organisation. For instance, while they are probably willing to acknowledge that their best product is not equal to the best home produced article, they have nevertheless realised that successful marketing is closely bound up with consistency in quality. They therefore instituted a system of grading wherein each grade used stands for a definite quality. It is easy to understand that grading of this character must greatly facilitate trade. For example, take the case of the wholesaler. It is much simpler for the large buyer to purchase by grade than it is for him to sample a whole consignment before forming a judgment on value. Then again, the consumer definitely prefers to be served with a regular quality.

In the matter of grading, our Overseas competitors have received considerable help from their respective Governments in dealing with the cheese they export. It is, of course, a comparatively simple thing for the Governments of exporting countries to help in this matter, as it is not difficult to "vet" the product as it passes through the few exporting channels. But for the Government of a consuming country to take in hand the compulsory grading of all cheese produced and consumed at home, would necessarily involve the enforcement of irksome legislation and the employment of an army of officials. It follows, therefore, that the steps necessary to be taken in order that the home product may be kept to the front must result from the action of the industries concerned.

The foregoing considerations are briefly those that were brought to the notice of the Cheshire and English Cheddar Cheese Industries of England and Wales some four or five years ago, and the result was that both decided to take definite action with a view to bettering the condition of their respective industries.

At this time there existed certain minor organisations connected with the industries but none of them were directly representative of the whole of either industry. The first step taken in each case was, therefore, to federate the existing interests and to make such additions as were considered necessary in order that each body might be really representative of the respective industry. In this way there came into existence :—

(*a*) The Cheshire Cheese Producers' Federation;

(*b*) The English Cheddar Cheese Producers' Federation.

The former was constituted in November, 1924, and the latter in January, 1927.

The action of these two independent bodies immediately following their constitution, although differing in a few details, was, in the main, the same. Therefore, for the purposes of simplicity, the account of what followed is, for the most part, confined to the action taken by the Cheshire Federation, that being the first body formed.

The scheme designed by the Council, and eventually adopted by the Federation, for the advancement of the industry provided for :—

(*a*) the registration of accredited producers;
(*b*) the grading of produce of an accredited producer;
(*c*) the use of a registered trade mark; and
(*d*) publicity.

REGISTRATION OF ACCREDITED PRODUCERS.

The object of the Federation in opening an accredited register to its members is to raise and maintain a high standard of production. The Federation is satisfied that, to carry out good marketing, you must have a good product and that, for the product to be good, it must be produced by the practice of proper methods both in the cowshed and in the dairy. It is, therefore, required that, before a member may have his cheese graded, he must become registered as an accredited producer, which, in turn, means that the condition and equipment of his cowshed and dairy, the methods he practises and the quality of his produce must conform with the requirements laid down by the Federation, which are as follows :—

Every producer of Cheshire Cheese in England and Wales who complies with the following conditions is eligible for membership of the Federation on registration as an accredited maker of choice Cheshire Cheese.

1. Conditions of Production: The conditions under which milk is produced and cheese made must be such as comply with the Milk and Dairies Order, 1926.

2. (*a*) For purposes of grading the following scale of points is adopted:—

Flavour	40	points.
Texture	20	,,
Body and Keeping Quality	20	,,
Colour	10	,,
Finish	10	,,
Total	100	,,

The minimum score for registration shall be 92 per cent. of the total points.

(*b*) The cheese must contain a minimum of 46 to 50 per cent. butter fat in the dry matter.

(*c*) The date of making must be stamped on the cheese.

The Cheshire Federation imposed these conditions from the outset on all members who desired to participate in the grading movement, but it was not until the commencement of the 1929 season that conditions more or less corresponding were included as a part of the scheme of the Cheddar Federation.

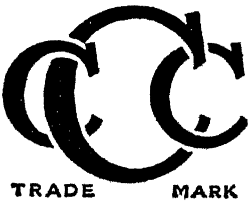
The requirement that members shall become accredited before they are allowed to have their cheese graded would appear to be exercising a beneficial influence in raising the standard of production. Indeed, it is the aim of the Federation that this part of its work should dovetail well with technical instruction provided by the local education authorities. The Federation's work stimulates producers "to put their house in order," for which purpose they not infrequently seek the advice and help of the County Instructors. This is borne out by the fact that, in most of the areas concerned, the demand for instruction has greatly increased since the grading scheme was put into operation.

GRADING AND THE USE OF THE REGISTERED TRADE MARK.

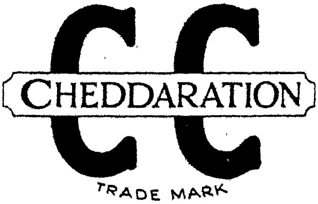
For the purposes of grading the produce of an accredited maker, each of the Federations employ a Grader, who is an expert judge of cheese, with a sound knowledge of cheesemaking. It is the duty of the Grader to visit the dairies of accredited makers as frequently as is necessary for the grading of the output. In the course of the performance of these duties, occasions arise when the Grader deems it advisable to suggest to the maker that the County Instructor should be consulted with a view to correcting some defect or other. Indeed, in the case of Cheddar Federation, the Grader carries with him specially prepared post cards addressed to the County Agricultural Organiser, saying that Mr. —— would be glad if the County Dairy Instructor could call at an early date to advise, &c. In this way there is a close liaison between the Grader and the County Instructors.

Each Federation has registered a Trade Mark which is as follows :—

Cheshire.



Cheddar.



Accredited producers are allowed to brand their cheese with these marks after they have been stamped as passed by the Grader.

The aim of the Federations employing these Trade Marks is to provide all purchasers of cheese bearing either of these marks with a guarantee that they are getting a genuine Cheshire or Cheddar Cheese, as the case may be, that is home produced and, in the opinion of the Federation which represents the industry, a cheese that is true to type. In this way it is hoped that the damaging influence of the imported limitations may be overcome.

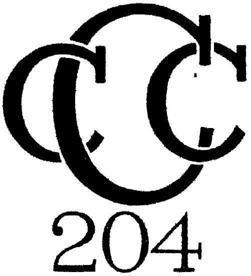
The branding of graded cheese is not confined to the use of the Trade Mark, for in addition there appears below the Trade Mark a number which is the index of the maker and is private between him and the Executive to the Federation. Its purpose is to provide means whereby any branded cheese may be traced back to its makers should occasion arise.

The following conditions regulating the grading, branding, sale and inspection are those laid down by the Cheshire Federation :—

Grading. The Official Grader of the Federation visits accredited makers as often as may be necessary to examine and stamp cheese.

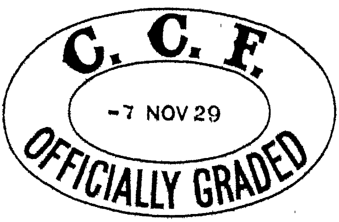
Branding. Every accredited maker is supplied, on registration, with an official trade mark brand, bearing his (or her) official number.

Example.



No cheese may be branded until it has been stamped by the Official Grader and is at least 18 days old.

Example of Official Grader's Stamp.



Sale. No restrictions are imposed on the method of sale of branded cheese. The Federation has no desire to interfere with existing channels of distribution.

Inspection. The premises and product of accredited makers must be open at all reasonable times to inspection by the Grader or other official representative of the Federation.

Finance. The necessary funds for carrying on the grading movement are derived, in the case of the Cheshire Federation, from Registration fees and from an annual levy. The precise regulations enforced in the Cheshire group are:—

1. Before registration as an accredited producer, applicants must pay to the Secretary the appropriate fee and levy.

Registration Fee:—

For dairies of 50 cows or over	£2
For dairies of less than 50 cows	£1
For factories	£10

Levy (must be paid annually in advance):—
Sixpence per cwt. upon an assumed output of 4 cwt. per cow.

The Cheddar Federation, on the other hand, does not charge a registration fee, but depends for its income on annual subscriptions from Honorary and Ordinary Members. Hon. membership is open to those who, although not cheesemakers, may be connected with some other branch of farming, or who, being interested in the prosperity of agriculture generally, may care to assist the Federation by subscribing annually to its funds. The annual subscription of an Honorary Member of the Federation is a minimum of 10*s.*, whereas Ordinary Membership is confined to bona-fide cheesemaking farmers and the annual subscription (which includes grading) is based on a charge of 1*s.* per cow.

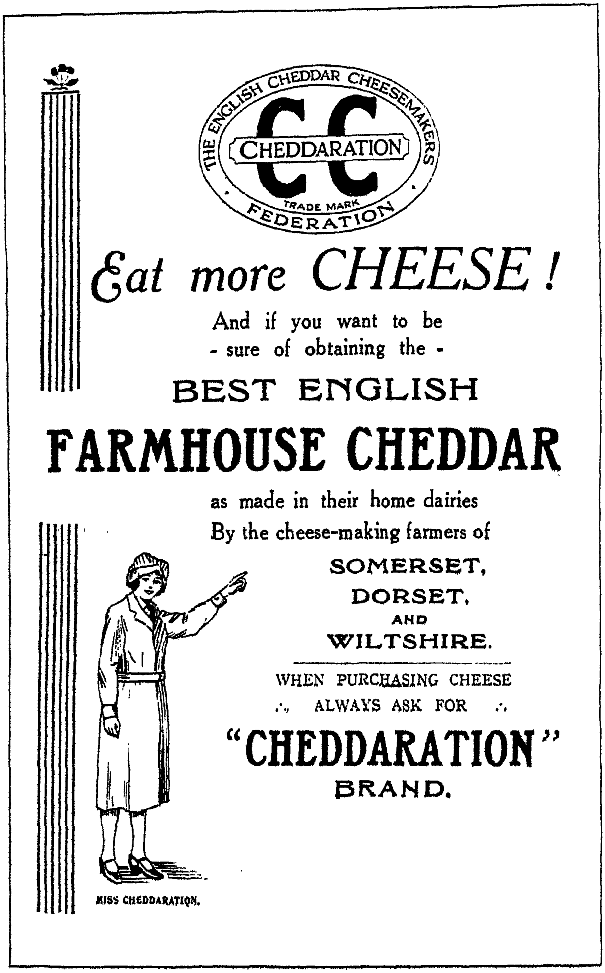
The Ministry of Agriculture and Fisheries rendered financial assistance during each of the first two years to both of these organisations on the ground that their grading schemes constituted marketing experiments. The grants-in-aid were made from the fund placed at the disposal of the Ministry by the Empire Marketing Board.

PUBLICITY.

The aim of both the Federations in the matter of publicity is to explain to the trade and to consumers of cheese what their Trade Marks stand for, namely, that any Cheshire or Cheddar Cheese bearing the Trade Mark of the respective Federation may be understood to be cheese that is home produce and, in the opinion of the organisation which represents the producing industry concerned, is a truly representative cheese of the variety.

A publicity campaign is being carried on by both Federations so far as their limited funds permit. For instance, notices such as those shown on pp. 98 and 99 are distributed.

In addition, exhibits are made from time to time at appropriate Trade Exhibitions, of which the following copies of photographs of actual exhibits may be taken as examples (see pp. 100 and 101).



THE ENGLISH CHEDDAR CHEESEMAKERS FEDERATION
CC
CHEDDARATION
TRADE MARK

Eat more CHEESE!

And if you want to be
- sure of obtaining the -

BEST ENGLISH

FARMHOUSE CHEDDAR

as made in their home dairies
By the cheese-making farmers of

SOMERSET,
DORSET,
AND
WILTSHIRE.

WHEN PURCHASING CHEESE
∴ ALWAYS ASK FOR ∴

"CHEDDARATION"
BRAND.

MISS CHEDDARATION.

PRACTICAL RESULTS.

It is too early seriously to discuss practical results. In all such movements, especially where the public have to be educated, it naturally takes some considerable time to show any appreciable effect. Voluntary organisations of this kind, particularly when carried on amongst those who have hitherto conducted their business independently, always experience difficulties and the attempts made by the Cheshire and Cheddar cheesemakers to improve their industry are by no means an exception. But

Eat

GRADED

Cheshire Cheese

All Cheeses before being branded with the Trade Mark of the Cheshire Cheese Federation are tested and approved by Expert Graders.

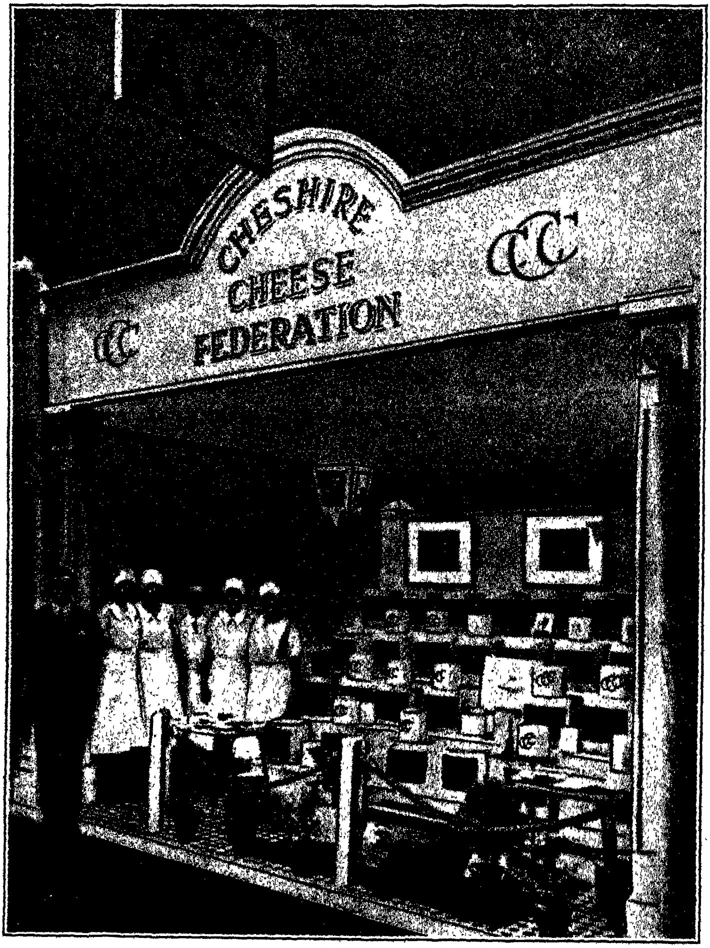
By this mark shall you know Choice Cheshire Cheese

TRADE MARK

The official seal of approval.

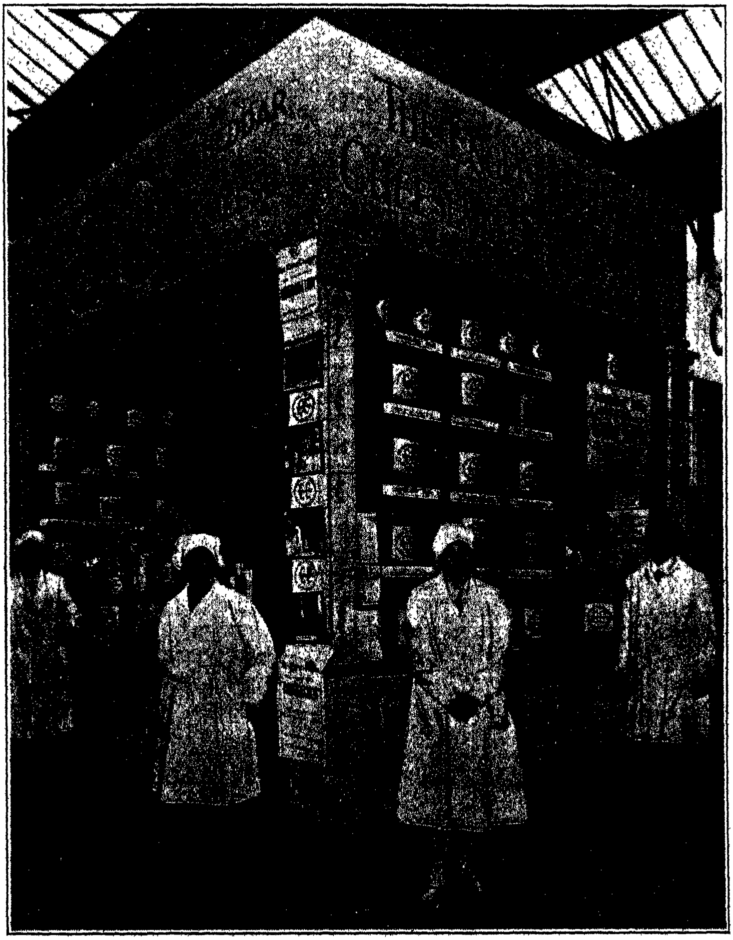
Issued by the Cheshire Cheese Federation, Whitchurch, Salop.

already it can be said that these grading efforts are definitely helping to uplift the standard of production; that the market for home cheese is being broadened; and, as is borne out by the graph on page 102, prepared from official market returns, that prices have been influenced in favour of the producer.

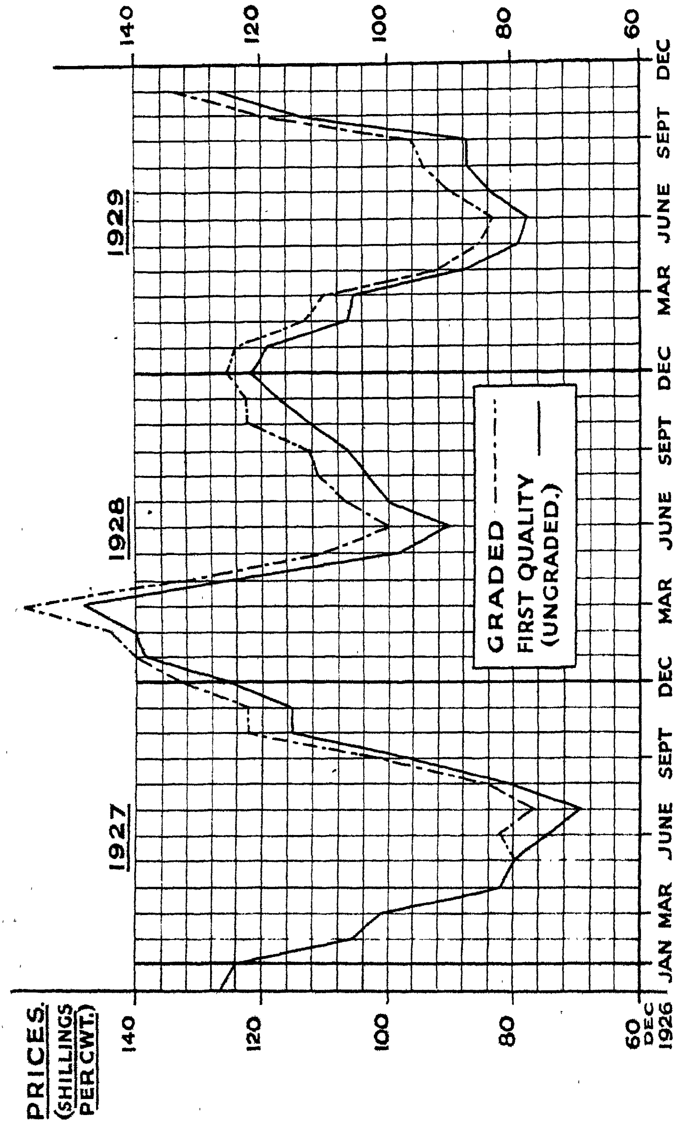


The Exhibit of the Cheshire Cheese Federation at the International Grocers' Exhibition, London, September, 1928.

The foregoing is to be regarded only as a brief sketch of the attempts that are being made by English Cheshire and Cheddar cheesemakers to improve their respective industries. Whether they eventually succeed remains to be seen, but, in any case, the leaders in this movement are deserving the thanks of all agriculturalists for the serious attempts that are being made by these industries to help themselves.



Stand of the English Cheddar Cheesemakers' Federation at the British Industries Fair, February, 1928.



FLUCTUATIONS OF AVERAGE MONTHLY PRICES FOR CHESHIRE CHEESE.

J. F. Blackshaw.

Harlow,
Essex.

POOR LIGHT LAND AND ITS PROBLEMS.

We have in Suffolk a very large area of poor light land. After the War, the extremely rapid fall in prices of agricultural produce created a very serious situation on land of this kind. In many parts of the country this situation has been met to some extent by allowing the poorer land to go down to grass. This policy, although no doubt disastrous to the country, in that it involves less production and less employment, at least results in the land producing something of value, even although the amount so produced may be small. But in the comparatively dry climate of the Eastern counties very light land is singularly ill-fitted for the production of grass. In the summer of 1924 a journey around the light land areas in East Suffolk revealed the fact that the land was not going down to grass, but was being left derelict. Stubble on a large area was being left unploughed. This means that, in two or three years, the land covers itself with worthless grasses, and produces herbage fit only for a few rabbits.

The situation was so serious that the East Suffolk County Education Committees decided to rent a portion of the Walk Farm, Tunstall, near Woodbridge, from Lord Ullswater, with a view to studying the problems of this type of land. The land selected was typical of probably 100,000 acres (lying mainly between the Ipswich to Yarmouth Railway line and the sea) which was in grave danger of going derelict.

This type of land has in the past been mainly devoted to arable sheep farming in conjunction with corn growing, and in a dry year, crops were as a rule very small, and barley sometimes failed to come out into ear. The land was recognised as "season" land, which may give fair returns in a "light land year," *i.e.* a year of ample rainfall in the growing season, but failures of crop on a large scale were expected in a dry time.

When the Sugar Beet industry came to the fore, considerable areas were sown with that crop, but as a rule only a very small yield—3, 4, or 5 tons per acre—was obtained on this class of land, and many fields failed completely or in large patches, although generously manured. An examination of a number of patches in fields where the crop had failed completely, revealed a great shortage of lime. It appeared possible that many failures not only of sugar beet but of other crops were due to lack of lime in the soil. The idea prevailed amongst many, however, that it was impossible, owing to the cost, to apply that substance to the soil in sufficient quantity to do any good.

There are important chalk pits down the Gipping valley, and immense quantities of chalk have been extracted from these in past centuries. During the last fifty years or so, however, much less chalk has been used, especially as most of the land which now requires chalking is some distance from the chalk pits. Local tradition also held that 10 or even 20 tons of chalk per acre were necessary in order to get the desired results, thus raising the cost of chalking to a prohibitive figure.

The advent of the motor lorry, however, appeared to somewhat change the situation. It was found that chalk could be delivered on to the field where required, 20 miles from the pit, at a total cost of 10*s.* a ton in 1925, and in later years at 8*s.* per ton. If satisfactory results could be obtained from a smaller dressing of chalk, provided it were well distributed, it was quite evident that chalking was still a possible proposition. Five tons per acre of chalk, costing 40*s.* plus 10*s.* for spreading, brings the cost to 50*s.* per acre, which is less than the cost of an equivalent dressing of lime.

It was pointed out that the cost of failure of a single crop such as sugar beet might easily amount to three or four times the cost of 5 tons of chalk.

The percentage of moisture in chalk is variable, and depends upon the weather. When absolutely dry, Suffolk chalk contains about 98 per cent of carbonate of lime. As obtained from the pit, probably on an average 5 tons of Suffolk chalk would contain as much lime as 2 tons of burnt lime, or 4 tons of dry ground carbonate of lime.

It was further recognised that certain crops are specially suited for light land of the type in question, but that very little was known as to their capabilities, their capacity to respond to manure, and the most suitable rotation in which to grow them.

Generally speaking, land of the type under consideration is in large farms, very often comparatively little farmyard manure is produced, and much of this is applied to fields near the buildings. It was therefore considered desirable to include in the investigation a study of the extent to which the fertility of the soil could be built up, and satisfactory crops obtained, by green manuring with a leguminous crop, coupled with the application of phosphates and potash as sources of mineral plant foods. Of all the crops for green manuring on light land, lupins appear to be by far the best. They have been grown for many years in Suffolk for this purpose, for sheep feed, and for seed. Hence they were made the central point in drafting out a rotation. It was also considered desirable to conduct experiments with a view to ascertaining whether lucerne and other suitable crops could be induced to make a satisfactory growth on this type of land.

Before deciding as to details of the experimental work, Sir John Russell was consulted, and the writer is indebted to him for much valuable advice, especially in connection with the planning of the rotation plots in Heath Walk Field. Mr. H. G. Thornton, of Rothamsted, has also given much valuable help and advice in connection with the lucerne inoculation experiments. It is also desired to acknowledge the valuable work of Mr. G. Thurston, Foreman of the Experimental Station, who has done much of the work in connection with the plots.

The following is a brief account of the investigations in the three fields:

HEATH WALK FIELD, ABOUT 9 ACRES IN EXTENT.

This field, in which our most important experiments have been conducted, is level, oblong in shape, and apparently of very uniform soil.

In 1923, this field was drilled with barley which yielded about 20 bushels per acre. In spite of three ploughings given in preparation for the barley, several horse hoeings were necessary in order to keep down the spurrey.

In 1924, sugar beet was drilled. This failed and was ploughed up, and sugar beet was again drilled. This also failed completely.

In 1925, it was fallowed and then sown in July with a mixture of Italian ryegrass, rape and trifolium—a mixture which has been found successful as a light land sheep feed by well-known Suffolk flockmasters. The ryegrass made a little growth, but the other plants in the mixture remained stunted, no doubt, in light of subsequent experience, owing to the sourness of the soil.

In October, 1925, the Committee entered into possession. The field was divided into equal parts lengthways. Half received 5 tons per acre of chalk, and the other half received nothing. The chalk was of the soft Suffolk type. It was left on the surface all winter, and became shattered by frost and other weathering agencies. During the winter and before ploughing, the chalked area was harrowed two or three times at intervals in order to effect a good distribution and to assist weathering. In this way, quite large lumps of chalk were shattered to fragments and the particles spread over the ground.

Mr. F. Hanley, of the School of Agriculture, Cambridge, reported as follows on samples of the soil of this field taken in 1929, nearly four years after the application of the chalk.

Top-Soils.

	*p*H	Carbonate of Lime Per cent.	Lime Requirement by Hutchinson & McLennan's Method.
Sample No. 1 (chalked) .	6·7	0·14	
„ „ 3 (unchalked) .	5·8	Nil	27 cwt.
„ „ 5 (chalked) .	6·8	0·20	
„ „ 7 (unchalked) .	5·8	Nil	26 cwt.

Sub-Soils.

		Per cent.	
Sample No. 2 (under No. 1) .	6·8	0·02	
„ „ 4 (under No. 3) .	5·8	Nil	26 cwt.
„ „ 6 (under No. 5) .	6·0	Nil	23 cwt.
„ „ 8 (under No. 7) .	6·2	Nil	27 cwt.

It may be noted that a *p*H value of 4 indicates a very acid soil, of 7 a neutral and of 8 an alkaline soil.

In spring, 1926, the amount of ryegrass was negligible, and it was ploughed in.

In view of the three previous failures, it was considered desirable to try a crop which would have a reasonable chance of success. Hence it was decided to drill the whole field with lupins as a preparation for the rotation experiments, a uniform dressing of 2 cwt. super and 4 cwt. kainit being applied with the object of adding a little phosphate and potash to the soil. A fairly good crop was obtained and ploughed in as green manure.

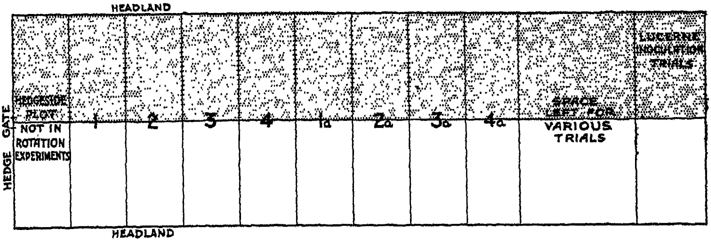
In the early autumn of 1926, the field was laid out in half-acre plots as per diagram on page 107, each half-acre plot having half of its area chalked, and the other half unchalked. It was decided to adopt the following rotation and manurial treatment:

Crop.	*Manuring per Acre.*
1. Lupins either ploughed in green or harvested for seed	Nil.
2. Rye, for seed	1½ cwt. nitrate of soda.
3. Half of plot sugar beet Half of plot potatoes	3 cwt. nitrate of soda. 3 cwt. basic super. 3 cwt. muriate of potash.
4. Oats	1½ cwt. nitrate of soda.

Lupins.—Lupins usually grow fairly well without manure. Various trials elsewhere in Suffolk had indicated that comparatively little return could be expected from manures applied to them. As a rule, in a favourable season, they grow a very dense crop, about as much as can conveniently be ploughed in green. When it is desired to save them for seed, it is not desirable to have too luxuriant a growth, as there is then less seed. For these reasons it was thought best not to apply manures to them once the rotation experiments were started.

HEATH WALK, TUNSTALL.

Diagram showing Arrangements of Plots.


HEADLAND
HEDGESIDE PLOT NOT IN ROTATION EXPERIMENTS
1
2
3
4
1a
2a
3a
4a
SPACE LEFT FOR VARIOUS TRIALS
LUCERNE INOCULATION TRIALS
HEDGE
GATE
HEADLAND

Shaded portion—5 tons of chalk per acre, winter, 1925–6.
Unshaded—unchalked.

Plots 1 and 1*a*.—Cropped with rye in 1927, half with sugar beet and half with potatoes in 1928, oats 1929, to be cropped with lupins 1930, rye 1931.
Plots 2 and 2*a*.—Half of it cropped with sugar beet and half with potatoes in 1927, oats 1928, lupins 1929, rye 1930, for sugar beet and potatoes 1931.
Plots 3 and 3*a*.—Oats 1927 and so on.
Plots 4 and 4*a*.—Lupins 1927 and so on.

Rye and Oats.—Experiments elsewhere on Suffolk light land, chiefly at Bramford, had indicated that cereals usually respond well to nitrates, but that on the special types of light land in Suffolk they do not usually give much return for phosphates and potash. Hence it was thought that possibly sufficient phosphates and potash for the needs of the rotation on this light land were being applied in the root shift.

Sugar Beet and Potatoes.—Nitrate of soda was used as a source of nitrogen in preference to sulphate of ammonia because of the poverty of the soil in lime. It was also a convenience to have the whole root shift manured in the same way. Basic super was used as a source of phosphates owing to the poverty of the soil in lime. The quantity used per acre was somewhat low owing to the generally recognised small response of Suffolk light soils to phosphates. Muriate of potash was used as a source of potash owing to its low price per unit. It was also thought better to use 3 cwt. of this salt rather than a heavier dressing of lower quality potash salts for the sugar beet, in order to reduce the possibility of raising the proportion of soluble salty material in the soil to too high a level.

The results for the seasons 1927, 1928 and 1929 are given in Tables I to IV. 1927 was a year of heavy rainfall, hence must be regarded as a good light land year. There was probably a sufficient supply of moisture during the whole year, even for this very poor light soil. In 1928 there was a very severe drought in July. It was, however, too late to adversely affect the yield of corn, and was too short to spoil the potato and sugar beet crop. The latter was, however, undoubtedly adversely affected by the September drought. In 1929 there was a very dry and cold spring. Very little rain fell during the growing season until July 4, when 2 inches fell in 12 hours. After this there was hardly any rain until October. In spite of this very unusual season, the corn does not appear to have suffered, but there is no doubt that the sugar beet and potatoes were adversely affected, especially the latter.

Rye.—Examining the figures given in Table I, we notice that the yield has never fallen below 23 cwt. 6½ stones per acre (obtained on the unchalked plot in 1927), and on one occasion (on the chalked plot in 1929) was as high as 34 cwt. 5 st. or 61 bush. 2½ st. per acre.

TABLE I.—RYE (ORDINARY ENGLISH). AFTER LUPINS.

Year	Plot on which Rye was growing	Uniform Manurial Treatment per Acre	Chalked—5 tons per Acre in Winter 1925–6			Unchalked		
			Yield per Acre			Yield per Acre		
			Corn Cwt.	St.	Straw Cwt.	Corn Cwt.	St.	Straw Cwt.
1927	Plot 1	1½ cwt. nitrate of soda	26	1	46	23	6½	44
,,	,, 1A	,, ,, ,,	25	5	46	25	1	42
1928	Plot 4	,, ,, ,,	29	7½	47	25	3½	41
,,	,, 4A	,, ,, ,,	28	1	52	24	4½	43
1929	Plot 3	,, ,, ,,	34	5	49	27	4	41
,,	,, 3A	,, ,, ,,	32	3	45	25	7	45

Note.—18 cwt. rye, wheat or lupin grain = 32 bush. = 4 quarters = 8 coombs.
22½ ,, ,, ,, = 40 ,, = 5 ,, = 10 ,,
27 ,, ,, ,, = 48 ,, = 6 ,, = 12 ,,
31½ ,, ,, ,, = 56 ,, = 7 ,, = 14 ,,
36 ,, ,, ,, = 64 ,, = 8 ,, = 16 ,,

Valuable information regarding rye has also been obtained from another piece of land in the same field. This was sown broadcast with red suckling clover, in standing wheat shortly before harvest 1927. (This is an approved method of getting a "take" of this kind of clover.) The weather was showery and a good plant resulted.

In June 1928, a small area of the red suckling clover on both chalked and unchalked portions was weighed, and there was a difference in favour of the chalked of about 70 per cent. This crop was then folded by sheep, the land ploughed up, cleaned, and drilled with lupins. These, owing to drought, germinated irregularly. They were ploughed in green during September, and the whole drilled with rye. In March, 1929, this received 1½ cwt. per acre of nitrate of soda. An enormous crop resulted, decidedly heavier on the chalked part. The chalked and unchalked parts were not kept separate ; the whole area yielded 34 cwt. 6 st. per acre. The chalked part was undoubtedly heavier than this, and the unchalked part lighter. Hence it is certain that a yield of somewhere in the neighbourhood of 36 cwt. or 8 quarters per acre of rye was obtained on the chalked part. This is at least double what is usually considered a good crop of rye in Suffolk.

The yields of rye on the chalked area of the rotation plots have always been in excess of those on the unchalked. The issue is, however, somewhat complicated by the fact that the preceding crop of lupins has been rather better on the chalked land, and hence no doubt more nitrogenous residues have been left for the rye. The red suckling clover was very strikingly better after the chalk. Hence, the superiority of the rye after the chalk may be due in part to the superiority of the previous leguminous crop. Very good crops of rye were obtained without chalk. It is evident, however, that on poor light land, the ploughing in of lupins, or the folding of sheep on leguminous crops, followed by a lupin crop ploughed in, is an excellent method of preparing the land for rye, and that if a small dressing of nitrate of soda be also applied, crops of rye can be secured which are immensely superior to those usually obtained.

In these trials the top dressing of nitrate of soda has always been applied very early in the season to the cereals—in the case of rye, in March or early April. Drought is recognised as the great danger on light land of this type and an attempt has been made to secure ample growth before the dry weather sets in. In the dry climate of the Eastern counties there is also a grave danger that a top dressing applied late in the season may not get washed in until too late to be of use to the crop. Rye is recognised as a drought-resisting crop, and if nitrate of soda is applied early, no doubt the roots are encouraged to penetrate deeply in their search after it. Treated in this way it seems unlikely that rye will often suffer from drought in the climatic conditions prevailing in the British Islands, even on the lightest of land.

Until the autumn of 1929 rye grain has usually been saleable at about 2*s.* per quarter less than wheat. Suffolk rye has often been exported to the Continent and to Iceland. Rye may be used in mixture with other grain such as maize, barley and peas as food for pigs, but the mixture should not contain more than 10 per cent. to 15 per cent. of rye. Mr. H. R. Davidson informed me some time ago that at Cambridge University Farm the working horses were fed daily for four years upon 2 lb. of cracked rye and 10 lb. of oats and bran, when in normal work, making a total ration of 12 lb. of corn per day.[1]

The straw, of which a very large bulk is obtained, is excellent for thatch and useful for litter.

Sugar Beet. The crops obtained are given in Table II.

TABLE II.—SUGAR BEET.

Year	Plot on which Sugar Beet was growing	Uniform Manurial Treatment per Acre	Chalked—5 tons per Acre in Winter 1925–6		Unchalked
			Yield per Acre of Washed Beet		
			Tons Cwt.	Per cent. of Sugar	Yield per Acre
1927	Half of Plot 2	3 cwt. nitrate of soda 3 ,, basic super 3 ,, muriate of potash	9 14	19·1	No crop at all. Nothing but sorrel and spurrey.
,,	,, ,, 2A	,, ,,	6 14		,, ,,
1928	Half of Plot 1	,, ,,	13 6	21·3	,, ,,
,,	,, ,, 1A	,, ,,	8 16		,, ,,
1929	Half of Plot 4	,, ,,	10 16	18·3	1 ton 1 cwt. A few beet grew in patches. Most of the plot was covered with sorrel and spurrey.
,,	,, ,, 4A	,, ,,	12 7½		14 cwt. A few beet in patches. Most of the plot was covered with sorrel and spurrey.

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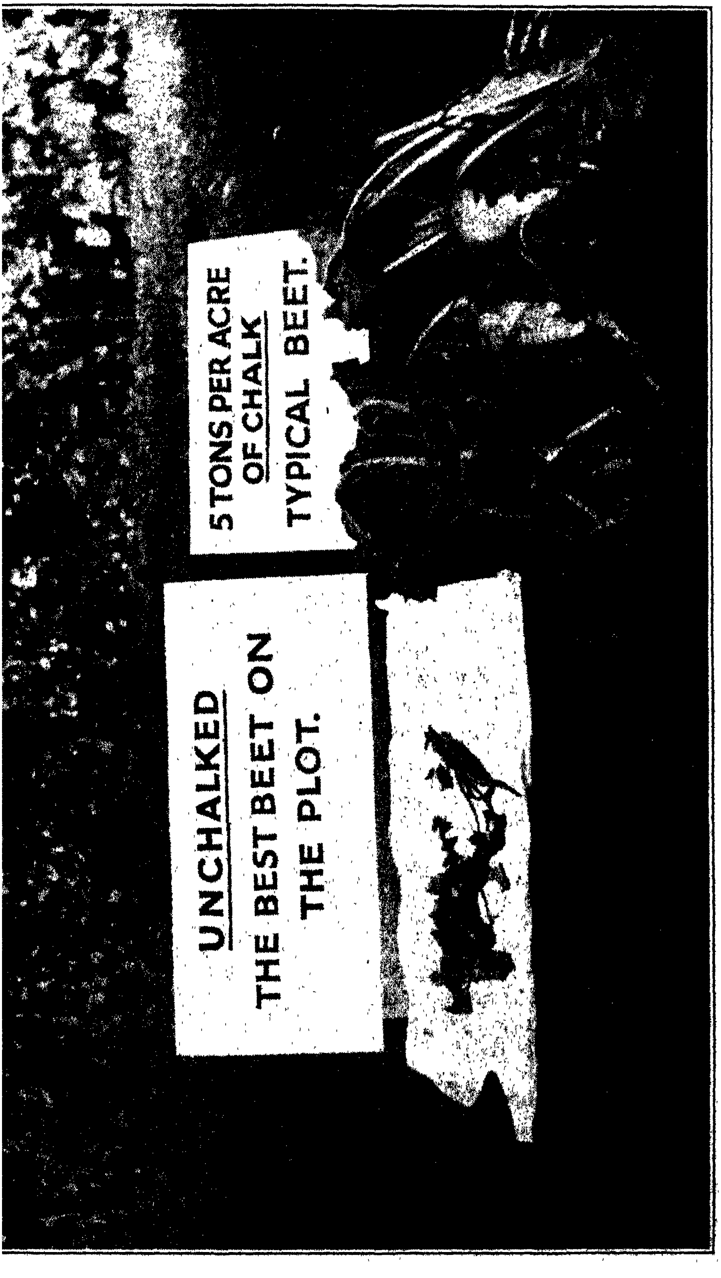
[1] See *British Farm Crops*, by A. W. Oldershaw and John Porter. E. Benn Ltd.



Effect of Chalk on Sugar Beet. Tunstall, 1928.

The complete failure of the sugar beet, after two drillings, in this field in 1925 rendered the attempt to grow that crop rather speculative. The results obtained have, however, proved quite the most striking of those obtained at Tunstall. Every year fair crops have been obtained on the chalked area, and a complete failure has resulted on the unchalked. The latter has produced a dense mass of sorrel and spurrey, which has involved the expenditure of much labour to destroy. The spurrey has not been killed in the chalked area, but has been checked and is much less troublesome. The beet has always been drilled lengthways of the plot, over both chalked and unchalked areas, on the same day. The chalked area has produced healthy seedlings; on the unchalked part the seed has come up satisfactorily, but the small leaves have gone yellow and the plants have hardly reached singling stage, although the greatest care has been taken to preserve them. The rather smaller yield in 1927 may possibly have been due to the more recent application of the chalk—it was applied 15 months previous to sowing the beet. Possibly it had not then quite neutralised the acidity of the soil. It is worthy of note, however, that in the Cow Walk field chalk was applied in the winter 1928–9 except on a small area and beet was drilled four months after. The unchalked area was a complete failure, whereas the chalked part was a fair crop. Evidently chalk applied 4 months previous to sowing a crop has a great influence. That influence may not, however, be so complete as when it is applied a year earlier. The results obtained in the Heath Walk show conclusively that previous failures of sugar beet in that field were due to lack of lime in the soil and there is no doubt that many similar failures in various parts of the country were due to the same cause.

A wide publicity has been given locally to the very striking results obtained, by means of parties of inspection and photographs in the local press, whilst local chalk merchants have referred in their advertisements to them as "The absolutely astonishing results obtained at Tunstall." As a consequence there has been a greatly increased recognition on the part of owners and occupiers of land that one of the causes of the low productiveness of our light land is lack of lime. The frequent appearance on the roads of heavy vehicles hauling chalk is evidence that there is a greatly increased use of that material.

It is probable that the mixture of artificials used is not unsuited for sugar beet on light land, since the crops obtained on the chalked part must be regarded as very fair for poor light land.

Potatoes.—Particulars of the potato crops obtained are given in Table III. For the purposes of the trials the potatoes

Foreground no Chalk. Background 5 tons of Chalk per acre. Sugar Beet at Tunstall, 1928.

received the same manuring as the sugar beet. Scotch seed was used. It was ploughed in on the flat, as it was recognised that drought was likely to be the great handicap. In all probability potatoes suffer less from drought when grown in this way than when grown in the baulk or ridge (the common method in most parts of the British Isles). They were moulded up at a rather late stage, if possible after rain, in order to conserve moisture as much as might be.

TABLE III.—POTATOES.

Year	Plot on which Potatoes were growing	Variety	Uniform Manurial Treatment per Acre	Chalked—5 tons per Acre in Winter 1925–6	Unchalked
				Total Yield per Acre	Total Yield per Acre
				Tons Cwt.	Tons Cwt.
1927	Half of Plot 2	Great Scot	3 cwt. nitrate of soda 3 ,, basic super 3 ,, muriate of potash	13 4	10 5
,,	,, ,, 2A	,,	,, ,,	12 16	7 19
1928	Half of Plot 1	,,	,, ,,	13 16	11 15
,,	,, ,, 1A	,,	,, ,,	12 7	10 1
1929	Half of Plot 4	Kerr's Pink	,, ,,	11 10	6 2
,,	,, ,, 4A	,,	,, ,,	14 3	6 11

In 1928 Kerr's Pink potatoes were grown with the same manuring as that given above, in another part of the Heath Walk Field, and a yield of 14 tons 11 cwt. per acre of ware was obtained. The total yield, including seed and small, was 17 tons 11 cwt. per acre—the heaviest crop we have ever obtained at Tunstall.

An inspection of the figures shows that quite good crops were obtained every year. In all cases the chalked area gave a better crop than the unchalked, and this superiority was most marked in 1929, when a very severe drought prevailed. In that year the haulms on the chalked area were much larger than those on the unchalked. Potatoes are usually considered to tolerate a considerable degree of soil acidity, but there can be no doubt that the acidity of this soil, coupled with the dry conditions, is greater than potatoes appreciate.

Oats.—Details of the results are given in Table IV.

TABLE IV.—OATS.

Year	Plot on which Oats were growing	Uniform Manurial Treatment per Acre	Chalked—5 tons per Acre in Winter 1925–6		Unchalked	
			Yield per Acre		Yield per Acre	
			Corn Cwt. St.	Straw Cwt.	Corn Cwt. St.	Straw Cwt.
1927	Plot 3 (1 bush. per acre of barley was mixed with the seed-oats)	1½ cwt. nitrate of soda	26 2½ (Some barley in crop.)	35	23 2½ (Crop almost entirely oats.)	35
,,	,, 3A ,,	,, ,,	25 2 (Some barley in crop.)	23	19 2½ (Crop almost entirely oats.)	22
1928	Plot 2 (oats only) (Abundance)	,, ,,	26 2	31	26 6	26
,,	,, 2A ,,	,, ,,	24 7	26	27 0	27
1929	Plot 1 ,, (Victory)	,, ,,	25 5	32	26 4	31
,,	,, 1A ,, (Victory)	,, ,,	28 2	30	31 3	35

Note.—18 cwt. of oats = 48 bush. = 6 quarters = 12 coombs.
21 ,, ,, = 56 ,, = 7 ,, = 14 ,,
24 ,, ,, = 64 ,, = 8 ,, = 16 ,,
27 ,, ,, = 72 ,, = 9 ,, = 18 ,,
30 ,, ,, = 80 ,, = 10 ,, = 20 ,,
33 ,, ,, = 88 ,, = 11 ,, = 22 ,,

In the first year a little barley was mixed with the oats. This provided useful information, in that it showed that whilst oats can stand a considerable degree of soil acidity, barley cannot. On the unchalked part there was hardly any barley in the crop, whereas on the chalked area there was an appreciable proportion.

In the first year (when the oats were grown after the lupins which covered the whole field) the oats on the chalked part were decidedly superior to those on the unchalked. In the second and third years there was a slight superiority on the unchalked part. Evidently oats have great powers of tolerating soil acidity. The issue is not, however, quite clear. In the first year the barley may have slightly affected the result. In the second and third years the oats were grown partly after sugar beet. On the chalked area quite a good crop of sugar beet was removed, but on the unchalked part no crop at all was grown and the land was practically a bare fallow. No doubt nitrates were thus stored up and these would benefit the oats. In this connection it is worthy of note that in another part of the same field in 1929, oats were grown wholly after potatoes. Here the chalked part yielded 28 cwt. 5 st. per acre and the unchalked 24 cwt. 1 st. per acre. This confirms the view that the superiority of the unchalked to the chalked oats on the rotation plots may be due to the "fallow" effect of the failing sugar beet crop.

It is evident, however, that oats have a great power of withstanding soil acidity and that very good crops can be obtained on sour land. It appears likely that any benefit to oats which might result from an application of chalk or lime on fairly sour land would be not so much direct as indirect, in that the chalk or lime would promote the growth of clovers and other leguminous plants in the rotation, which would store up an increased quantity of vegetable matter and nitrogen in their roots. This would undoubtedly benefit the oats and probably all other crops. The nitrate of soda was applied early in the season to the oats in these trials, the object being to promote growth before the dry weather set in and to help the roots to sink deeply into the soil. The oats were always drilled as early as possible. On this light land it is often possible to drill in February. Oats suffer severely from drought on light land in a really hot and dry time. Although two of the years were very dry, yet on the whole we cannot be said to have experienced a bad year for oats. The heaviest crop we have had—31 cwt. 3 st., *i.e.* 10 qrs. 3 bush. per acre—was obtained in the extremely dry year of 1929. In that year the heavy rain which fell in July undoubtedly helped the crop very much.

Lupins.—In the rotation adopted at Tunstall, lupins have been grown after oats and before rye. It was recognised that they are practically the only leguminous crop which will make quite satisfactory growth on an acid soil. They were much grown by the ancient Romans, and Mr. E. I. Robson tells me that a classical writer says of the lupin "Calcem fugit," it shuns lime. In spite of this, however, the acidity of the Heath Walk field at Tunstall is greater than they appreciate and as a rule the crop on the chalked part has been slightly better than on the unchalked, especially when the large white lupin has been grown.

In 1927 and 1928 the crop was ploughed in as green manure. The crops obtained have been about three feet high and a dense mass of green stuff has been produced and ploughed in.

In 1929, lupin seed was dear and there appeared some prospect of a good yield. It was, therefore, decided to allow the crop to ripen. The following Table gives the yield of grain per acre. The straw was not weighed. It will be noted that the chalk has had a slightly beneficial influence upon the yield of grain. It is not to be inferred from this that it is desirable that there should be a large quantity of chalk or lime present in the soil in order to obtain a satisfactory growth of lupins. A reference to the analysis given on page 106 shows that even after chalk was applied there was only 0·14 per cent. of carbonate of lime present in the soil. It is quite possible that a further application of chalk might injure the lupins. There is a very general idea, which is probably correct, that lupins will not thrive on a soil containing much lime. Other more valuable leguminous plants, such as sainfoin, lucerne and the clovers, can usually be grown on soils containing an abundance of lime. There can be no doubt whatever that lupins have great powers of withstanding soil acidity and will make thoroughly satisfactory growth on soils which are extremely poor in lime.

TABLE V.—LUPINS.

Year	Plot on which Lupins were growing	Manurial Treatment	Chalked—5 tons per Acre in Winter 1925–6	Unchalked
			Yield per Acre of Lupin Grain	
			Cwt. St.	Cwt. St.
1929	Plot 2	Nil	24 0	23 3
”	” 2A	”	25 2	21 6

OTHER EXPERIMENTS IN HEATH WALK FIELD.

A small area of land in the Heath Walk field is not taken up with rotation experiments. The following trials on this land may be of interest:

Wheat in 1929 *after Potatoes* (1928).—Half an acre of Little Joss Wheat was drilled after potatoes, over chalked and unchalked land. It was manured with nitrates.

The result obtained was as follows:

	Yield of Wheat per Acre Cwt. St.
Five tons of chalk per acre, 1925–6	25 5
Unchalked	20 2

Evidently in the season in question light land of this type was capable of giving very fair crops of wheat. The nitrate was applied early with the object of inducing early growth and deep root formation.

The chalk undoubtedly considerably benefited the wheat, which evidently has only moderate powers of withstanding soil acidity. The chalked area was handicapped in that a heavier crop of potatoes was removed from it in 1928.

Barley in 1929, *after Potatoes* (1928).—A small area was drilled with Spratt-Archer Barley, over chalked and unchalked land and manured with nitrates. The chalked land was handicapped by a heavier crop of potatoes removed in 1928. The barley on the unchalked land made very poor growth, and although horse-hoed, the plot rapidly became covered with a mass of spurrey which could not possibly have been removed under ordinary field conditions.

The following yields were obtained:

	Yield of Barley per Acre.		
	Grain.		Straw.
	Cwt.	St.	Cwt.
Five tons of chalk per acre, 1925–6 . .	24	7	23
Unchalked	3	2	4

It is evident that barley is the most sensitive to soil acidity of the cereal grains commonly grown in this country. It appears likely that the failing and unsatisfactory crops of barley often obtained on light soils in Suffolk and elsewhere are frequently due to lack of lime in the soil. They are often attributed to drought or other adverse weather conditions, but probably sourness of the soil is the real cause in many cases.

LUCERNE EXPERIMENTS.

It was recognised that if lucerne could be induced to grow on this light land a very important point would be gained. In Suffolk, a good stand of lucerne practically always gives a heavy first crop, even in seasons of great drought. If very little rain falls later in the season the second and third cuts may be small, but the first cut is usually good. Experiments at Bramford and Saxmundham have shown that lucerne is largely independent of nitrogenous manures, but responds to phosphates and potash on poor soils. If it can be kept reasonably free from weeds it usually survives for seven or more years unless the soil is wet and badly drained. On really heavy land a wet summer is often fatal to lucerne. When the land is broken up after lucerne a great store of fertility is left for succeeding crops.

The first experiments were started in 1926, in the field known as the "Broom Walk," which is adjacent to Tunstall Heath, and to land which recently has been planted with trees by the Forestry Commission. It is probably the poorest of the three fields under experiments. The land, which was full of sorrel and spurrey, was cleaned in the spring. Half-acre plots had been laid out in duplicate, the previous winter, as follows:

1. 20 tons per acre of chalk.
2. 10 ,, ,, ,,
3. 5 ,, ,, ,,

4. 5 tons lump coralline crag (a local material containing shells, and about 80 per cent. of carbonate of lime).
5. No treatment.
6. 2 tons quicklime.
7. 1 ton quicklime.

A uniform dressing of 1½ cwt. per acre of basic super, 3 cwt. of kainit and 1 cwt. of muriate of potash was applied, over the whole area. The proportion of potash in the mixture was high, as results at Bramford indicated that on Suffolk light land potash is the plant food most likely to influence lucerne. The lucerne was drilled in July, 1926, at the rate of 20 lb. per acre. In view of the uncertainty of success, 1 lb. of perennial ryegrass, 1 lb. of trefoil and 1 lb. of kidney vetch, per acre, was sown with the lucerne. The lucerne was drilled across the lime and chalk plots as follows:

(*a*) Seed un-inoculated.
(*b*) ,, inoculated.
(*c*) ,, un-inoculated.
(*d*) ,, inoculated.
(*e*) ,, un-inoculated.
(*f*) ,, inoculated on rest of field.

The seed of Plots (*b*), (*d*) and (*f*), was inoculated with a culture from Rothamsted, all the seed for these plots, including the trefoil and kidney vetch, being treated. The lucerne came up fairly well, the weather conditions being, on the whole, favourable. An immense quantity of seedling sorrel and spurrey appeared and was removed with difficulty. If it had been left it would undoubtedly have smothered the lucerne. It was soon apparent that a large patch towards the centre and end of the field was a poor plant of lucerne, and a mixture containing red suckling clover, ryegrass, cocksfoot and a little trifolium, was broadcast upon this.

The red suckling succeeded remarkably well on the duplicate chalked and limed plots, on the east side of the field, where weights were not taken. It produced quite a carpet of excellent herbage which was much appreciated by the sheep. This carpet persisted for two years owing to re-seeding. Many seedling plants of red suckling have made their appearance in the spring of 1930. The kidney vetch succeeded on all chalked and limed plots and was also eaten down closely by the sheep.

The trefoil succeeded on all chalked and limed plots and appeared to benefit considerably by the inoculation of the lucerne.

It was soon evident that a satisfactory crop of lucerne was only likely to be obtained where the seed had been inoculated, and the land chalked or limed. One treatment without the other was almost useless. Where no chalk or lime had been applied, whether the seed was inoculated or not, the herbage was most scanty and consisted almost entirely of ryegrass, sorrel, cudweed and other light land plants. Where chalk was applied but the seed was not inoculated, the red suckling, trefoil and kidney vetch grew, but very little lucerne was present, although the general result was much better than where the land was unchalked.

In 1928 and 1929, it was decided to weigh a small area of the first crop from those plots which were least affected by the mixture of red suckling and other plants sown.

TABLE VI.—LUCERNE.

Giving weights of first crop, expressed as cwt. of hay per acre.

	Year	20 tons of Chalk per Acre	10 tons of Chalk per Acre	5 tons of Chalk per Acre	5 tons of Crag per Acre	No Chalk or Crag
Un-inoculated .	1928	12½	11½	19	No weights taken but crop very superior to "No Chalk or Crag"	4½ (chiefly sorrel)
	1929	8	7	5		Nil
Inoculated . .	1928	37½	23	26½*		5*
	1929	30	23	8		Nil
Un-inoculated .	1928	14	7	12½		4½*
	1929	7	3	2		Nil
Inoculated . .	1928	22½	18½	16*		5½ (chiefly rye-grass)
	1929	8	13	10		Nil
Un-inoculated .	1928	12½	10	11½*		4½ (chiefly rye-grass)
	1929	6	4	1		Nil
Inoculated . .	1928	24	18	18½		13*
	1929	14	15	7		2

* Figures slightly affected by the mixture of renovating seeds sown to fill up the faulty patch.

The aftermath was grazed by sheep.

The figures confirm conclusions formed from numerous inspections, as follows:

1. That chalking or liming, together with inoculation of the seed, resulted in a growth of herbage which was extremely good for this type of land.

2. That where no chalk or lime was applied growth was extremely poor, even on the inoculated area; the very small quantity of herbage present consisted chiefly of ryegrass.
3. That chalk or lime without inoculation resulted in a very poor growth, except on those areas where the renovating mixture of red suckling and other plants was sown. The red suckling especially succeeded well on the chalked or limed areas, and produced a carpet of leguminous herbage which, owing to re-seeding, lasted for two years and may reappear.
4. That without chalk, lime or inoculation practically nothing grew except weeds, moss and a few heads of ryegrass.

An examination of numerous roots of lucerne on the inoculated areas revealed the presence of many large nodules, whilst the few sickly plants which grew from un-inoculated seed had hardly any nodules upon their roots. The line of demarcation between inoculated and un-inoculated plots could be seen at a considerable distance away.

A sample of the lucerne on the plots was analysed at Rothamsted, with the following result:

Un-inoculated — mean of two samples 1·06 per cent. nitrogen.
Inoculated — mean of two samples 2·04 per cent. nitrogen.

In view of the success of the inoculation in the Broom Walk field, it was decided with the co-operation of Mr. H. G. Thornton, of Rothamsted, and with the aid of a grant made possible by the assistance of the Royal Agricultural Society, to try other inoculation experiments in the Heath Walk field. Half this field, it will be remembered, was chalked at the rate of 5 tons per acre in 1925–26, whilst the other half received no chalk.

The whole area received 1 cwt. of muriate of potash per acre before drilling the lucerne. Lucerne was drilled in June, 1928, at a distance of 18 inches apart in the rows. This wide distance apart of the rows was chosen in order that the seedling sorrel and spurrey which it was feared would choke the lucerne, might be dealt with.

The lucerne on the unchalked part came up but died off completely. It was drilled a second time and again came up and died off.

The chalked half came up well at the first drilling. It was horse-hoed at suitable times in 1928 and 1929. On this light soil horse-hoeing is easy to perform.

About 2 inches of rain fell on July 4, otherwise the summer of 1929 was extremely dry.

Crop in 1929 on Chalked Part	Weight of Hay in cwt. per Acre		
	First Cut	Second Cut	Total for 1929
(1) Inoculated (old culture)	24	16	40
(2) Not inoculated	14	5	19
(3) Inoculated (acid culture)	27	17	44
(4) ,, (old culture)	22	15	37
(5) ,, (acid culture)	23	15	38
(6) Not inoculated	10	5	15

The acid culture was prepared by Mr. Thornton from nodules found on lucerne plants growing on unchalked soil on the Broom Walk with the idea of finding whether it is possible to prepare cultures which would enable lucerne to grow on acid soils. The stand of lucerne is satisfactory and looks like lasting a number of years. This confirms the results obtained in the Broom Walk field, that quite good lucerne can be grown on this soil if the land is chalked and the seed inoculated.

Cow Walk Field.

This field, which is fourteen acres in extent, is more sandy, and somewhat less uniform in character than the Heath Walk.

An analysis made by Mr. A. J. Codling, of the School of Agriculture, Cambridge, gave the following results:

		Analysis of a good Loam noted for fertility from Bentley, Hants, for comparison.[1]
Water	·42	3·23
* Organic matter	1·33	4·60
Lime (CaO)	·09	2·61
Potash (K_2O)	·08	0·60
Phosphoric Acid	·06	0·27
Insoluble Siliceous matter	95·84	—
* Containing nitrogen	0·046	0·19

When taken over by the committee most of this field was growing lupins, about 4 acres being in turnips. The lupins were ploughed in green and rye was grown for the harvest of 1926, a Swedish variety being tried in duplicate plots in comparison with ordinary English rye. The Swedish rye was stiffer in the straw and had larger ears. The grain also was larger. The ordinary rye had greater tillering power and produced more ears per acre.

The plots were thrashed separately. In both cases the ordinary rye gave a better yield than the Swedish variety.

[1] From *The Soil*, Sir A. D. Hall.

The plots were each about 1½ acres in extent and the actual yield obtained per acre was as follows:

		Cwt.	St.
Plot 1.	Ordinary Rye	13	6
,, 2.	Swedish Rye	12	0
,, 3.	Ordinary Rye	14	6
,, 4.	Swedish Rye	11	6

It will be noted that these yields of rye are much lower than those obtained in the Heath Walk. This field had only just been taken over, is naturally very poor and was in a low state of fertility.

After rye, blue lupins were again drilled and a very dense crop of green material resulted.[1] These in the wet season of 1927 gave no prospect of producing much seed and it was decided to plough the crop in. This was not done until a rather late stage, as the original intention had been to save the seed. A strip of the lupins received a dressing of 4 cwt. per acre of kainit, but no very obvious benefit resulted. It appears that in a wet season blue lupins produce too much bulk of green stuff for seed production. The best yields of seed are obtained on light soil in a fairly dry year.

Giant white lupins were also grown. They produced an enormous crop which stood 5 feet 6 inches to 6 feet high, and was much heavier than that of the blue lupins in the same field. In some seasons, however, they seem more liable to fungus attack than the blue kind, and as the seed is usually dearer and often does not ripen satisfactorily in this country, it is rather doubtful whether they are on the whole as valuable a plant as the blue variety for English conditions.[2] In some seasons the growing of blue lupins for seed may be quite a profitable undertaking.

Yellow lupins have not been tried at Tunstall but trials elsewhere in Suffolk failed to show that they were in any way superior to the blue variety.

Nitrogenous Manures.—Trials with the newly introduced nitrogenous manures on oats, wheat and rye have been conducted in the Cow and Heath Walk fields mainly for observation purposes. A plot has always been left without nitrogenous manures and the striking differences obtained have further demonstrated the remarkable responsiveness of cereals on this type of land to nitrogenous manures. Very good results have been obtained from nitrates of soda and lime, nitrochalk and urea as top dressings. Cyanamide applied as a top dressing to rye burnt the leaves slightly but gave good final results, as it did on oats when applied partly a fortnight before drilling the oats and partly as a top dressing.

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[1] See "The Value of Lupins on Poor, Light Land," *Journal of Min. of Agric.*, January, 1920, A. W. Oldershaw. Résumé of a paper read at the British Assoc.

[2] See also "Lupins and Light Land," *Journal of Min. of Agric.*, July, 1925, A. W. Oldershaw.

The idea, by no means uncommon, that artificials are of little use on light land, is undoubtedly a mistake. It probably arose from unsuitable artificials for this very special class of land being used. "General" mixtures of artificials, suitable for average land, are of course very likely to give disappointing results. Nitrogen appears to be the dominant fertilizer for cereals, comparatively little phosphates being needed for any crop on this land. Potash on light soils sometimes gives remarkable results on leguminous crops, when sufficient lime is present.

Kidney Vetch.—Most of the "Cow Walk" has now received a dressing of chalk or crag, a strip being left undressed across the middle. In the spring of 1928, oats were drilled after sugar beet on an area which had received 4 tons an acre of crushed crag (80 per cent. carbonate of lime) two years before. Kidney vetch seed was sown in the oats. Plots were laid out on the oats, receiving cyanamide, nitrochalk, nitrate of lime and nitrate of soda, and very striking increases were obtained from all these manures, when compared with the untreated plot. The season was very dry and after the oats were cut, it was found that the kidney vetch was a much better plant where no nitrogenous manure was applied. The probable explanation of this is that the extra growth caused by the manure exhausted the soil of moisture, possibly also the extra shade injured the kidney vetch. This illustrates the great difficulty on this extremely light land of getting a plant of young seeds.

The kidney vetch also failed completely on the strip of land which received no crag, thus showing that, whilst it is undoubtedly a useful light land plant, it will not grow unless there is sufficient lime present in the soil.

In 1929 the kidney vetch was made into hay and the land ploughed up, as the plant was not thick enough to leave. In the Broom Walk a few of the plants of kidney vetch which were sown mixed with lucerne in 1926, still persist (March, 1930).

Serradella.—The land after the kidney vetch was sown with a mixture of serradella and a few lupins. The land was very dry and the serradella made very little growth, but the lupins grew well and the whole was ploughed in for green manure and drilled with rye.

Serradella, a light land leguminous plant, which is spoken well of on the Continent, as being suitable for sowing in a corn crop, and allowing to grow after harvest for green manuring, was tried previously in oats at Tunstall. The serradella was sown in the oats, like clover. The oats were a good crop and apparently smothered it. The few plants which were in evidence at harvest time made very little growth after the oats were cut.

Mustard.—In the "Broom Walk" it was found that lime and chalk trebled or quadrupled a crop of mustard. Mustard is quite a useful plant for sheep-feed on this type of land, but only makes a poor crop if the land is acid.

White Turnips.—These completely failed in the "Cow Walk" where there was no chalk, but produced a useful crop on the chalked area.

Conclusions.—The period of three years, during which the experiments have been in progress, is not long enough to eliminate the effect of season or to enable final conclusions to be drawn. Nevertheless there is sufficient evidence to enable tentative opinions to be formed upon some of the many problems of light land under the dry climatic conditions prevailing in the Eastern counties.

(1) Much light land is very poor in lime. Where this is the case it is possible to obtain very fair crops of oats, rye, lupins and even potatoes without the application of lime or chalk. Other crops such as sugar beet, lucerne, clover and barley, either fail completely or give miserable results. The failure of most leguminous crops renders the maintenance of soil fertility a very difficult matter and as a rule the soil becomes very impoverished, as it lacks the nitrogen accumulated by the clovers and allied plants, in ordinary farming.

Lupins appear to be the only leguminous crop which will thrive upon such sour land, and whether ploughed in for green manure, folded by sheep or harvested for seed, they greatly benefit the soil and increase its productivity. Care is necessary in folding lupins with sheep, owing to their poisonous properties ([1] and [2] on p. 123).

(2) Modern methods of transport render possible the application of bulky sources of lime, such as chalk or crag, where they are available within a reasonable distance.

Contrary to previous opinions, as small a dressing as 5 tons per acre of soft chalk, well distributed and shattered to fragments by weathering agencies, has been found to give extremely beneficial results upon those crops which are adversely affected by soil acidity, such as sugar beet, wheat, barley, turnips, mustard, lucerne and most leguminous plants.

The results have been so striking as to lead to the conclusion that the frequent sterility of poor light land is often really due to its poverty in lime. The low cost of an application of chalk (say 50*s.* an acre, when the pit is 20 miles distant) makes it evident that the loss on a single crop failure may easily be three or four times as much as the cost of chalking. Hence it is really not worth while to risk failures from this cause.

Where there is any doubt as to the cheapest source of lime in any district, owners and occupiers of land would be well advised to consult the local Agricultural Organiser. Sometimes natural and untreated materials containing lime, suitable for direct application, such as chalk and crag, are available at a low cost. In other cases by-products of industry, such as sugar beet lime-sludge, can be obtained. Specially prepared materials such as ground chalk or limestone, ground carbonate of lime, ground quicklime and lump quicklime can invariably be purchased from agricultural merchants.

(3) The adoption of a rotation consisting of light land plants only—lupins, rye, sugar beet, potatoes, and oats, together with suitable manuring with artificial manures, has resulted in crops far in excess of those anticipated. The absence of farmyard manure, an abundant supply of which would normally be available on a small farm intensively stocked, has no doubt been a heavy handicap, but the ploughing in of green lupins has probably in some measure compensated for the lack of that manure.

The crops have not suffered from drought so severely as was expected. This may have been due to the vegetable matter left by the decaying lupins. It is also thought that the early application of nitrates to cereals promotes early growth and extensive and deep root development, which is a great insurance against drought.

The cereal crops have responded in a remarkable way to nitrogenous manures, and the relative cheapness of these renders possible their use on an increasing scale at the present time.

(4) The inoculation of lucerne, combined with the application of chalk to the land, has proved a great success and has rendered possible the growth of quite good crops of highly nutritious herbage where practically nothing of value as forage would grow before.

This has a most important bearing upon the farming of land which does not appear capable of growing "grass" in the ordinary sense of that word.

An examination of the herbage on the most successful plots on the Broom Walk field and elsewhere has led to the conclusion that on very poor light land of this character, it might probably be better, after chalking the land, to sow a general lucerne mixture rather than lucerne alone.

Such a mixture might contain, say, 8 to 10 lb. per acre of inoculated lucerne, 1 lb. of wild white clover, 2 lb. trefoil, 2 lb. red suckling clover, 4 lb. of kidney vetch, together with a few pounds of cocksfoot (a good light land grass) and perennial ryegrass. After this mixture had been down for several years much fertility would be accumulated and the land could be put through a course of tillage.

(5) In considering the possibility of devising a system of farming which would be economically possible on this light land, it is worthy of note that the soil is easy to work and the cost of ploughing and cultivation is low. It is seldom too wet for tillage operations, consequently the number of working days for horses and men per year is high. Double furrow ploughs may be drawn with ease by three good horses, thus further reducing the cost of cultivation.

(6) A system of farming suitable for poor light land would naturally vary to some extent in its character according to the size of the farm.

Heavy crops of rye and oats, made possible by the adoption of a light land rotation and by the cheapness of nitrogenous manures, mean an abundance of straw. This, together with a considerable area of temporary lucerne mixtures for hay and grazing, make possible the maintenance of a large head of live stock. Cows may be kept and their calves reared. There is no reason why a good number of pigs should not also be kept. The horned stock and the pigs together would produce an ample supply of manure, whilst a flock of ewes would help to maintain the fertility of more distant fields. A large head of poultry could also be kept.

Sugar beet would be grown and the tops folded by sheep or fed to cattle in the fresh state or as silage. Potatoes also are a very suitable crop if a market can be found for them.

It may be that some of the results obtained in these trials will be of interest and use to those farming land which is not quite so poor as that at Tunstall. Given reasonable prices there seems some justification for believing that a system of farming such as that outlined above might prevent poor light land from becoming derelict, thus maintaining the supply of home grown food and keeping skilled farm men in full employment. Such a prospect is indeed pleasing to all those who love husbandry.

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THE FARM FOR MARKET GARDEN CROPS.

I HAVE been asked to write an article for the JOURNAL on the subject of Fruit, Flower and Vegetable production and of the Glasshouse Industry, and I have thought a little as to why agriculturists are likely to be interested in such a subject. In the main, agriculturists are more intimately concerned with the care of live stock and in the production of cereals, roots and forage crops; but I am told that as the accepted four-course system practised in the cropping of arable land is leading to the loss of much good money, agriculturists are inclined to make changes. Indeed, modern writings on the subject show that some changes have already been made. Such changes in the main have been slight in that the course of rotation has been adjusted or the sugar beet crop has been introduced: but in a few instances farmers have become fruit growers and market gardeners, land hitherto devoted to cereal growing being assigned to such crops as fruit or vegetables. The purpose of the present article is not to advocate a wholesale rapid change of this kind, but rather to give some words of advice on a course so beset with pitfalls.

BAD TIMES BRING CHANGES.

In good times industries are too busy and satisfied to contemplate making any real changes in methods or practice; but under the stress and strain of continued severe depression men are driven to cut out the uneconomical processes or even to recast their whole business. The same has been found to be true of Agriculture, as witness the adoption of the four-course rotation at the end of the eighteenth century and on many other occasions so clearly set out by Lord Ernle in his delightful book *Farming: Past and Present.* Changes in agricultural practice, however, take place slowly and often are in operation, over an extended period of years, in consequence of which they are actually made by the pioneers without attracting any notice. For some few years now the Agricultural industry, and particularly the members concerned with the cropping of arable land, has been in a very depressed state: corn crops have proved unremunerative: potatoes, of which the acreages in recent years have been extended, have brought low returns, and to make matters worse, much of the 1928 crop could not find buyers: roots have proved costly of production.

Small wonder then that the arable farmer, confronted with all the difficulties at one and the same time, should turn his attention to the production of others. The situation is such that changes will be made, and they can, of course, take many forms, of which this article is concerned with but one aspect, namely the growing of fruit and vegetables instead of wheat and oats. Where this has been done, the grower has left (or partially left) the field of Agriculture and entered that of Horticulture. He has joined another industry with new outlooks. Intensification of the land must follow, but the change has been a change of system. A man may give up growing wheat for some other cereal or farm crop and introduce no important complication. He would understand the harvesting of oats, potatoes or mangolds as well as wheat and probably effect his sales to the same merchant. If, however, he makes the change from barley growing to black currant production, or from wheat to brussel sprouts, or from oats to sea-kale, numerous problems arise with which the ordinary farmer has had no previous experience. When are these crops to be harvested ? How many additional labourers will be wanted ? What is the customary wages for harvesting such crops ? How are they graded and packed for the market ? Where and how does one sell these products ? These are questions that sooner or later will spring to the mind of everyone. The man already engaged in vegetable production can change from brussel sprouts to sea-kale, from broccoli to peas, and create only minor problems, because he has had experience in the market-gardening industry and learned his geography of that industry. The farmer may manage to grow without difficulty very fine vegetable crops, but his inexperience of the market requirements and his lack of knowledge of the industry and particularly of the distributing section will be—at first—a very big handicap.

RETURNS FROM FRUIT AND VEGETABLE GROWING.

It is of course common knowledge that the fruit and vegetable grower receives more money for his crops than does the grower of the normal agricultural crops ; though as his expenses, risk and enterprise are greater, the net result may not be regarded as a disproportionate return. Tales are spread of very high money returns per acre. Some of these tales are pure exaggeration. Other stories relate to what might be regarded as exceptional returns and apply only to a particular crop. Vegetable growers, on the other hand, often speak of the losses on crops that have been grown for which no sale could be effected. Such stories and exceptional figures—both high and low—must be disregarded in considering the general case and in their place must be placed the money returns for the average, for these disclose a much more accurate position. Average figures, however, be it understood, apply to no particular case, but give an expression of the returns between the very successful and the complete failures. No grower should be content to do only as well as the average figures, for much better is possible.

Average figures can usually only be obtained from the Government statistics made in those years when a census of agricultural production is taken.

MONEY RETURNS PER ACRE.

The last of these was made in 1925, and there is no alternative but to take these as published in the Blue Book (Cmd. 2815, issued in 1927). From this book the following table was compiled :—

Crop	Acreage in England and Wales	Total Value sold off Farm	Gross Returns per Acre in
		£	£
Wheat	1,500,000	12,070,000	8 0 0
Potatoes	493,000	11,830,000	23 12 0
Fruit [1]	274,989	9,720,000	35 7 0
Vegetables [1]	185,437	8,400,000	45 6 0

[1] Glasshouse crops not included.

Many studying these figures for the first time will be surprised to see that the total value of the potato crop, the fruit crop, or the vegetable crop is so large that each one is approaching in value that of the wheat crop, though the acreage under wheat is vast by comparison. As the acreage and value of the wheat crop are declining, the time is not far distant when the value of the fruit crop, or, for that matter, the vegetable crop, will exceed that of wheat. In this article the return per acre is of more immediate concern.

The average gross return per acre from wheat is but £8, to which must be added the value of the straw—perhaps another £1—making in all a gross return of but £9 per acre. Potatoes give a much higher return—£23 12*s.*—in addition to which there should be added the value of the chats, etc., consumed by the pigs. Fruit—including all kinds—brought an average gross money return per acre of £35 7*s.*, whilst for vegetables—which produced the highest return of all—the figure was £45 6*s.* per acre.

Money Returns for Fruit.

It might be argued, and justly so, that the terms "fruit" and "vegetables" are comprehensive terms and include a whole multitude of crops, and, in consequence, the returns from these are not strictly comparable with returns given for single crops such as potatoes or wheat, etc. I have drawn up tables giving returns for each particular crop; though, as the exact crop acreage of each top fruit has never been obtained, the returns for these have to be given at per tree. The table is as follows:—

Crop	Acreage	Value of Output	Value per Acre
		£	£ *s.* *d.*
Strawberries	29,300	1,410,000	48 0 0
Black Currants	11,700	660,000	56 8 0
Gooseberries	16,100	550,000	34 3 0
	No. of Trees.		Per Tree.
Apples [1]	12,102,000	3,750,000	6 2
Cherries	741,000	1,130,000	1 10 0
Plums	5,105,000	1,180,000	4 7

[1] Cider apples not included.

Of the small fruits in the year 1925 the gooseberry crop gave the smallest return, £34 3*s.* per acre. Strawberries came next with £48 per acre, whilst black currants gave the highest return of £56 8*s.* per acre. It is necessary to point out that the yields and price of these fruits vary from year to year far more widely and rapidly than do prices for wheat. The strawberry crop in 1925 was poor and hence the return per acre for that year is lower than normal; at the present time the return from strawberries is probably the highest of the small fruits. On the other hand, the value of black currants has experienced a rapid decline since 1925, so that the average return per acre from this crop at the present time is much less than the figure stated. Gooseberries are frequently grown under top fruits so that the figure of £34 3*s.* per acre represents less than the full return of the crops on the land. Even with these remarks qualifying the statements above it is evident that the small fruits are real money crops.

MONEY RETURNS FOR VEGETABLE CROPS.

Now for the vegetable crops, of which space limitation determines that the returns for but a few can be tabulated, thus :—

Crop	Acreage	Total Value	Value per Acre
		£	£ *s.* *d.*
Green peas	43,500	1,070,000	24 12 0
Cabbages	35,200	2,080,000	59 0 0
Cauliflowers [1]	18,100	1,680,000	93 0 0
Brussel sprouts	21,300	1,020,000	48 0 0

[1] Including broccoli.

A study of this table reveals the somewhat surprising fact that cauliflowers (including winter broccoli) bring the high return of £93 per acre, and cabbages—of which the autumn sown is the more important—yield £59 per acre. Brussel sprouts come next at £48 per acre, whilst the green pea crop yields a comparatively low return. The pea crop, however, occupies the land for a comparatively short period of the year. The brussel sprout crop usually follows an early potato crop, so that in these instances the returns are misleading in that they do not disclose the full return for the year of the land in which these crops are grown.

COST OF PRODUCTION.

These "money returns per acre" may appear large and attractive to those growers who have been getting a gross return in farming of under £10 per acre, but it is apparent that the real figures to the grower is the net balance between the money return for the crop and the cost involved in producing the crop. The gross expenditure is an interesting figure, but one that is very illusive. No economist gives it, nor do the official statistics make any mention of the cost of production.

The cost of production of a crop is the sum total of many factors, of which rent of the land, quantity of manures, amount of labour and cost of harvesting and marketing, represent important items of expenditure. If the value paid under each of these headings is heavy it is certain that the cost of production will be heavy. Whilst there are exceptions, it is nevertheless true that the rents of land suitable for fruit and vegetable growing is high and sums of £4, £6, £8 and even £10 per acre are being paid for land specially adapted for a particular crop. For these crops the land needs heavy manuring. In growing brussel sprouts, for instance, dung at the rate of 10 to 20 tons per acre should be applied to the previous crop, whilst brussel sprout crops need 5 cwt. of fine meal, 1 cwt. sulphate of potash and perhaps 1 cwt. sulphate of ammonia per acre, or, as an alternative, 100 bushels of soot to the acre.

A moderate dressing for the onion crop would be 25 loads of dung per acre accompanied by 4 to 6 cwt. per acre of superphosphate, 1 cwt. sulphate of potash and 2 to 3 cwt. of sulphate of ammonia per acre. Some growers even use 50 tons of stable manure to the acre, others 100 bushels of soot to the acre.

The land devoted to vegetable culture needs much manure, and continued good crops cannot be raised without this high farming. Such applications mean expense and high costs per acre.

The cost in fertilising small fruits is less, but it is still very considerable. Tree fruits need much less, though even with these the cost of manuring, as practised by the most successful growers, is high. Trees in cultivated land must have supplies of potash and phosphate, whilst those in grass may need as much as 5 to 6 cwt. of sulphate of ammonia per acre.

COST IN FRUIT PRODUCTION.

Whilst the tree fruit grower may have to spend less on labour and fertilisers he has to bear expense in spraying, without which no satisfactory market crop can be secured. Clean fruit, the only fruit needed on the market, comes from orchards in which insect and fungus pests have been kept under control by grease banding, spraying, etc.

At the East Malling Research Station the total cost of one year's spraying on scab-susceptible varieties of apples was nearly £20 per acre. The cost should be less on varieties resistant to scab, and the cumulative effect of spraying clearly demonstrated that from time to time the figure might be reduced.

Plums and bush fruits need a less number of sprays; but in the main the fruit grower has to budget for a very substantial sum per acre for spraying work and cannot engage successfully for any extended period without his proper spraying programme.

LABOUR EMPLOYED IN FRUIT AND VEGETABLE GROWING.

It is surprising that one is not able to give figures showing the number of persons employed in occupations of this kind, but these men in the census of population are so divided between agricultural workers on the one part and gardeners and nurserymen on the other, that any accurate determination is difficult, if not impossible. There is then no point in quoting figures to compare the number of workers employed in fruit and vegetable growing with those employed in agriculture proper, for unless the figures are correct unjust conclusions may be drawn.

In the absence of figures I can only state what everyone believes to be true, that land devoted to fruit growing, and still more to vegetable growing, needs much more labour—both permanent and temporary—than the same area of land laid down to agricultural crops. The only figures of a reliable nature confirming this statement are of an indirect character, but there are sufficient to prove a statement which few would dispute. The county of Somerset, which might be regarded as a predominantly agricultural county engaged more in dairying and stock raising than in fruit or vegetable production, employs per thousand acres about 28·7 total workers, as compared with the two counties of Kent and the Isle of Ely, where fruit growing are important industries, where similar employment is as high as 66·8 and 63·3 respectively. The counties where vegetable production is the most important are Middlesex and London, and in these the employment figure per thousand acres is 116·2 total workers.

One vegetable grower maintains that his wages bill amounts to £30 per acre per annum, whilst a second estimates £45 per acre per annum as being the more appropriate for his holding. These figures are not given to demonstrate from an employment standpoint that fruit growing and vegetable growing are a national asset, for that is beside the point; they are given to warn those who are about to engage in fruit and vegetable production that more labour will be needed and more intense organisation required, and a very much higher labour bill will be the rule.

THE PRESENT INDUSTRY. FEARS OF OVER-PRODUCTION.

The production of fruit, vegetables and flowers is already engaging the attention of a number of people, and there is the danger of getting an over-production if the ranks of these producers are increased at too rapid a rate. If this happens prices will fall away and the production of that particular commodity will become quite uneconomic. Experiences with potatoes during the past few years reveal this very clearly.

If any figures were needed to prove that farmers have been engaging in vegetable production they are in part supplied by the statistics of acreage published by the Ministry of Agriculture. They only supply a part of the story for the obvious reason that statistics for these horticultural crops date back only a few years, and even these disclose only the acreage to the various crops on the land on June 4, whereas many of the crops are not planted until after that date and so escape any statistical recognition. Crops like savoy cabbage, brussel sprouts, and celery are planted in the rows between the early potato crops and no accurate return of these is secured, and in consequence the statistical figures for these crops are much on the low side. The acreage recorded to carrots was 9,462 in 1920 and 10,100 in 1929, so no very large increase in these has been made. Similarly the acreage to beans has been fairly stable round 12,300 acres.

On the other hand, peas have been more widely grown, the acreage jumping from 44,360 in 1928 to 53,300 in 1929. The big increase in production, however, has occurred with crops of the cabbage tribe which has made the greatest appeal to the farmer. Summer cabbage grown to the extent of 21,670 acres in 1925 have increased to 31,400 in 1929. Brussel sprouts from 12,580 in 1920 to 30,336 in 1928. Cauliflower and broccoli from 8,704 in 1920 to 13,700 in 1929. Crops like autumn-sown cabbage and the main winter broccoli crops escape recognition in the statistics, though it is known that largely increased plantings of these have taken place. Even of a crop like celery, the acreage in the Isle of Axholme alone has expanded from 265 acres in 1918 to 730 acres in 1928.

The standard of living in this country has much increased in recent years, and in consequence larger supplies of these types of food have been needed and absorbed (with some difficulty) by the markets; yet caution is needed in making any further and sudden large expansion lest the supply outsteps the demand and prices crumble away in consequence. Of commodities such as strawberries, black currants, apples, broccoli, onions, beans, etc., this country has not been self-supporting, as the custom figures of import show. The volume of importation is not, however, the true criterion, for the period of importation is nearly of equal importance. For instance, some 15,000–20,000 tons of broccoli is now imported annually from France, usually during the months of January and February. There is room for an increased home production for this period, but our climate is such that it can only be done in a very few places.

In the later months of the year the markets are well supplied with cauliflower. The imports of all kinds of vegetables from the Mediterranean regions in fact are made in advance of our normal season, and our growers could only hope to compete with them by engaging in protected production as carried out under glass. Fruits in some instances offer a similar illustration.

IMPORTED PRODUCE.

The Customs returns show that the imports of black currants into this country in 1928 and 1929 were no less than 51,460 tons and 71,067 tons, from which it would seem that the home production could be increased very considerably. Yet those engaged in black currant production would affirm that home-produced currants were difficult to sell in each of those years and that the prices in 1929 were quite uneconomic. The explanation is that the French currants became ready in advance of the home-grown, and by using first the French and then the home-grown the jam manufacturers of this country are able to spread their operations over longer periods and manage their factories to the better advantage.

Neither then in the vegetable market nor in the fresh fruit market does the home grower enjoy a monopoly. In both markets the produce is needed earlier than he can produce it out of doors, and the British climate prevents him from competing.

One further illustration to show the care that must be exercised in reading statistics of imports is afforded in the case of apples, of which the importation in 1928 reached the high figure of 304,573 tons, to the value of £7,840,887. The term apple is used generally, whereas the public in buying differentiate between culinary and dessert kinds and almost between varieties for the latter purpose. It will avail little to produce cooking varieties if the market needs dessert, or to send large unshapely sorts if something neater is required. Though the returns do not disclose if these large imports of apples consist of a very large proportion of dessert varieties, all are extremely well graded and attractively packed. The home markets are well supplied with cooking apples and too plentifully supplied with ungraded samples of dessert apples of poor appearance.

PRESENT SHORT CROPS.

(*a*) *Strawberries.* Even when the statistics of production, imports and the demand are read in an intelligent way, and making due allowance for the imports that are made out of season, there are striking examples of short crops—of which perhaps the strawberry affords the best example. For many years there has been no glut of this fruit; on the contrary, the markets have been sparsely supplied. The shortage, however, is not felt so much in the fresh-fruit market as by the canners and jam manufacturers, of which the former alone in 1929 claimed to have a very large unsatisfied demand. England for long has been famed for fresh strawberries, and it appears that the flavour is not impaired on canning, for the demand for canned English strawberries has never been satisfied. Part of the short crop during the past few years has been due to a small acreage and partly to light crops—both of which can be rectified as soon as the growers have regained their confidence in this crop and are prepared to select their plants and propagate their fields on the pre-war plans. In fact most of the present troubles are due to the disturbances caused during the war—when land could not be spared for this luxury crop. In consequence the acreage was forced down from 23,374 acres in 1914 to 13,143 acres in 1918—which is a decrease of 10,231 acres, or nearly 50 per cent. With the war ended the acreage began to rise, slowly at first, but very rapidly in 1922, 1923 and 1924, when in the last year the acreage reached the high figure of 33,619 acres. Those familiar with strawberry culture will realise that sufficient numbers of really strong good healthy runners were not available for planting up new land at this rapid rate, and in consequence many weak, inferior and often unhealthy runners were used instead. Many of these had no chance of producing a successful crop and have given unsatisfactory results since. In consequence some fields have been taken up and the acreage has declined almost to previous figures. Technically the causes of the troubles are mainly known; the worst point has been passed and it is possible to view the future of strawberry production with optimism.

The two varieties "Royal Sovereign" and "Sir Joseph Paxton," so popular a dessert fruit with the public, are quite suitable for canning purposes and either may be grown with confidence. In order to furnish intending planters with sources of supply of healthy runners true to the variety, the Ministry of Agriculture publishes a list annually of those growers to whom certificates have been awarded after the crop has been inspected. The early planting of good strong runners in highly-manured and well-cultivated land should secure a correct start.

(*b*) *Pickling Cauliflowers.* Whilst the home markets are adequately supplied with fresh cauliflowers from English fields, there is a definite shortage of cauliflowers for pickling purposes. Formerly supplies for this purpose were produced in this country, but at the present time the position has quite altered, for few are home-grown, whilst large quantities are imported, mainly from Italy. At the present time prices are by no means small, and advance contracts in some instances have been secured before starting. The manufacturers need a definite type of cauliflower so that some specialisation by growers is called for if satisfaction is desired. The varieties of cauliflower commonly grown in England are the Early London, Eclipse, and Autumn Giant, and though very suitable for culinary purposes, these develop heads in which the percentage of bare stem to curd is very high, and as the stem is not used by pickle manufacturers, these kinds, being wasteful, are of little value for pickling purposes. With a view to finding out the varieties most suitable for this purpose, trials of many kinds of cauliflowers were conducted at the Horticultural Station at Kirton in 1926, when no less than 34 kinds were tested. Of these the following varieties were found to be useful, Danish Giant, Erfurt Dwarf, Erfurt Forcing, and Erfurt Mammoth, though for most manufacturers the variety Danish Giant stands first. All the best pickling cauliflowers, including Danish Giant, belong to a class of high-grade cauliflowers which so far have not been largely grown in this country. The plants are small—ball-shaped heads with very close white curd and little stalk. Though advocated for pickling, these cauliflowers are excellent also for cooking.

The cultivation is not difficult. The seed is sown at the end of April or early May: transplanting takes place towards the end of June, and as these cauliflowers are small the plants may be set as near as 1 foot apart in the rows by 1 foot 6 inches between the rows. These varieties are somewhat more tender than the coarser types and need more careful treatment—the land, for instance, needs to be thoroughly prepared and brought to a fine tilth before the plants are set.

Manufacturers definitely need large supplies of these types annually and are now paying high prices for the imported article. The latter just meets his requirements and is offered in the desired form. Provided English growers are willing to concentrate on production for this trade, there is not the least reason why many hundreds of acres of suitable arable land should not be given over to the production of this crop.

(*c*) *Peas and Carrots.* There are plenty of peas and plenty of carrots grown in the country, and it might prove a speculative undertaking to plant more. Yet in one direction great scope for expansion and development remains, and that is in the production of these crops for canning purposes. The canning industry, and especially that part which is interested in vegetables, is of comparatively modern growth, yet during the short time of its existence the manufacturers have found that English-grown and English-canned green peas find a readier sale with the British public than do the imported article, which formerly constituted the main source of supply.

All peas, however, do not respond equally well to canning and thus manufacturers in many instances are not able to take the surplus left over when the market has taken its quota of green peas. The fact is that the canner needs selected varieties specially grown for his purpose. The green peas suitable for canning are harvested over a period of two to three months; the early, middle early, and late varieties being grown to extend the canning operations over as long a period as possible. Not all green peas are suitable for canning purposes—in fact the number that gives real satisfaction is somewhat limited. As a result of trials of canned peas carried out at Campden, that Research Station advises that the following varieties gave a satisfactory product:—

Small Peas—Alaska, Annonay and Goutier Blanc.

Medium-size Peas—Bountiful, Advance, Delicatisse.

Large Peas—Lincoln, Prince of Wales, Gradus, Yorkshire Hero.

Peas grown for canning factories should ripen uniformly so that they may be cut by machinery.

(*d*) *Apples.* As stated before, the markets are under-supplied with home-grown apples of high grade, and a wide field awaits the home growers who are prepared to engage in apple production on modern lines. Such an undertaking is costly of capital and annual maintenance and much courage, determination and business acumen is needed for success; otherwise the business just slides into the ordinary type of fruit farming for low-grade fruit, a business which is rather over-done at the present time.

FOOD PRODUCTION IN GLASSHOUSES

One of the striking developments of the present century has been the increasing demands of food-stuffs produced under glass. In former times glasshouses were small and their contribution in fruits and vegetables was almost insignificant in volume and merely of kinds that interested the luxury classes. To-day the volume of food supplies is very large indeed and in some kinds, especially of tomatoes and cucumbers, sales to the general public have been and still are the desired object.

At the close of the last century the area of land covered with glass and devoted to commercial production could be measured in terms of a few hundred acres; but to-day, after the lapse of the short space of thirty years, the area has grown by leaps and bounds and now measures nearly four thousand acres, and still more glass is being erected.

It is important, of course, for the soil and situation and aspect to be suitable: but the cost of the land is not very important, for the capital cost of the erection of the glasshouse far outweighs any other factor. It is said that in pre-war days the cost of covering an acre with glass was less than £2,000, but in a short period following the war years, when much development took place, the cost rose to nearly £4,000. These prices have been somewhat reduced since then, but even now would stand as high as £3,000 or a little more.

AREAS.

Isolated glasshouse production nurseries, like plant nurseries, have been built in the vicinity of large towns, and in consequence are to be found in every county in England from Cornwall to Northumberland. In addition to these isolated glasshouses which are producing food supplies and flowers for local needs, there are others centralised in those special localities—which experience has shown to be particularly suited to this form of production. The chief and most important of these specialised areas is in the Lea Valley, about 16 miles to the north-east of London, where from 1,500 to 1,700 acres of land has been covered with glass. The second important area is in the Worthing district, stretching almost from the centre of that town inland to Chichester. Middlesex, Kent, Surrey and Lancashire have very important areas, and a new and important one is now being built in Lanarkshire, in Scotland.

CHIEF CROPS PRODUCED.

Whilst a diverse number of crops are grown up and down the country, it can be conceded that pride of place is taken by the tomato. This is the main crop of the glasshouse grower and one in which most people specialise, so much so that production now reaches 35,000 tons per year. The tomato plant under the best treatment by expert growers is a prodigious cropper, yielding up to 50 tons of saleable produce per acre—with an average of 35 tons to the acre. It occupies the land from January to September, after which a second crop—Chrysanthemums—may be grown. The money returns from the two crops are high. The tomato crop, however, makes no monopoly, for almost every conceivable fruit, vegetable and flower is grown by someone; the more important being cucumbers, roses, carnations, grapes, early vegetables and salad produce. The crops from all of these make good prices and bring high returns to the cultivator. In 1925, when the agricultural output was taken, it was stated that the money returns to the growers was £1,800 per acre for produce from glasshouses in the Lea Valley and £2,200 in the Worthing area.

The costs of management, too, are high. Much coal is needed and much labour—from 4 to 6 men per acre—paid for at rates which are higher than those paid to the agricultural labourer. Furthermore, the risks are greater, for as all features of production are under control, crops may be reduced and even ruined by faulty management. In no branch of food production is technical and exact knowledge of greater moment, and the inexperienced beginner must start cautiously and feel his way steadily to progress.

As this note is being penned, there is much comment abroad that competition in the markets is very keen owing to Dutch imports, whilst in Holland itself there is a feeling abroad that too much glass has been built. It is said with some truth that the southern growers of Spain, France, Italy, and Algeria, raising their crops outdoors in the warm sunshine at not big costs, are able with improved transport facilities to send this produce to the industrial markets of Germany, Sweden, and this country, and so compete very severely with the produce raised in glasshouses in the more northern countries. In Holland it is said that the glasshouse grower cannot hope to continue to compete with this Mediterranean produce, and prophecies are being made that the area under glass will decline. Improved rail transport, to say nothing of the transport of the future, has certainly increased the contest of the sun against coal: but the sun has not gained the victory as yet. The rate of further development may be slowed down for a few years to allow for a proper adjustment between European supply and demand, after which a further expansion is not an unexpected development.

H. V. TAYLOR.

Preston Grange,
Ganwick,
Nr. Barnet.

POULTRY IN AGRICULTURE.

IF poultry-keeping has made more substantial commercial progress during the present century than any other branch of Agriculture it is because it has had so much leeway to make up, and because it has presented the greatest scope for development. This is the first important point to be emphasised in setting out a case for poultry-keeping as a branch of general farming, because it is the most effective means of countering those inherited prejudices by which the industry of to-day is judged and condemned on account of its shortcomings in the past.

Poultry-keeping is as old as the hills; but modern poultry husbandry is one of the youngest and most virile of British industries. It is also one of the most fortunate, since the fourth World Poultry Congress, to be held in London in July, 1930, is being organised by the Government as a national event, and the poultry industry will enjoy the kudos attaching to the official status of the Congress. A considerable amount of public interest will thereby be aroused; and apart from affording well-deserved publicity for British breeders of pedigree and commercial stock the event should enable poultry-keeping further to live down the inferiority complex which for so long has afflicted it in its connection with the agricultural community.

By way of attracting the interest of the general farmer it is sometimes urged that the £18,000,000 which Great Britain pays every year for imported eggs could readily be diverted to the pockets of the home producer plus a substantial sum to cover additional consumption resulting from increased production. Whether it is feasible or desirable to increase our production to that point is an economic problem which I am not prepared to discuss. It is quite sufficient at the present stage to accept the steady growth of our imports as evidence of opportunity, and to recognise that the future of the poultry industry rests to a large extent with the general farmer; at any rate with the farmer whose circumstances enable him to engage in a specialised industry that calls for the practise of technical skill as well as the exercise of faith.

In order to visualise the part which poultry husbandry should take in Agriculture to-day it is necessary to appreciate the changes which have come over the industry during the last thirty-five years. In that short period poultry-keeping, in a commercial sense, has been revolutionised in theory and in practice; breeders have concentrated their skill upon the cultivation of productive character, with admirable results; experiment and research have revealed more effective and more economical methods of management; and organisation has enabled poultry-keepers to secure advantages which have contributed substantially to the commercial stability of the industry. Thirty-five years ago poultry breeders were almost entirely interested in the breeding of stock for exhibition, and only a small section recognised the possibility of developing the productive or business side. But that small section gained many adherents by the formation in 1897 of the Utility Poultry Club (now the National Utility Poultry Society), and by the promotion in the autumn of that year of the first egg-laying test—the inception of a movement which has been one of the most helpful factors in the development of the egg-producing industry. The first laying test attracted only seven entries (twenty-eight birds in all), but it disposed of the impression that winter egg-production was a physical impossibility, and it set many more people thinking about the practicability of commercial production.

The egg-laying tests have provided the inspiration whereby the interest of skilled breeders has been directed towards the cultivation of productive character. Within five years after the inception of the laying test a considerable number of breeders were working on pedigree lines in order to develop the trait of productiveness, just as for many years they or their fellows had laboured to perfect exhibition type. At the same time new ideas of housing and management came into vogue. For several years competitors in the winter egg-laying tests were accommodated in old-fashioned roosting houses with open yards for exercising; but the introduction of the scratching shed or semi-intensive house immediately resulted in such a substantial increase in winter egg yield as to constitute a revolutionary advance in the management of laying hens.

During the season of 1929–30 upwards of 18,000 pullets are competing in egg-laying tests in various parts of Great Britain, and it is no exaggeration to state that the growth of this movement typifies the advance of the commercial egg-producing industry. It has encouraged the breeding of productive stock; it has led to the adoption of methods specially devised to assist and promote production; and it has created interest in poultry husbandry among a great many people who would not otherwise have credited the possibility of developing fecund character to the extent which has been attained. The leading laying tests of to-day return averages exceeding 180 eggs a bird in 48 weeks, from flocks ranging from 200 up to 3,000; while individual birds frequently yield totals of 250 to 280, and occasionally up to 300.

With increasing commercial importance the organisation of the poultry industry necessarily came in for attention. Ten years ago the National Poultry Council was formed, and its success is reflected in the creation of a poultry and small stock branch of the Ministry of Agriculture, the appointment of a Poultry Commissioner, with a Poultry Advisory Committee to provide a link between the Ministry and the industry. Many advantages have been secured through this effective form of organisation, which embraces practically all the representative clubs and societies in the specialised poultry industry. One of the most noteworthy—and certainly the most important from the educational point of view—was the creation of a National Poultry Institute, towards the capital cost of which the industry contributed one-fourth. The Institute embraces a centre for practical experiment and education at the Harper Adams Agricultural College; a breeding station for practical tests with laying stock at the Cheshire School of Agriculture at Reaseheath; a station for experimentation in the raising of table poultry at Wye College, Kent; departments for research in nutrition and in breeding at the School of Agriculture, Cambridge; and a section for research in poultry diseases at the Ministry of Agriculture's veterinary laboratory near Weybridge.

In addition many agricultural colleges and training institutions are devoting considerable interest to the poultry industry, and students are being trained not only for practical work on up-to-date lines but also for instructional work. The vast majority of County Councils in England and Wales nowadays employ one or more whole-time poultry instructors, and in addition about thirty promote county laying tests. In nearly every county there are approved breeding stations for the supply of hatching eggs and day-old chickens at reasonable prices; and in these and other ways local authorities are playing an important part in developing the poultry industry.

Another influential factor which should have an important bearing upon the attitude of the general agriculturist is the interest of the National Farmers' Union, which has its own headquarters poultry committee, while committees have also been formed by many of the county branches. The N.F.U. represents the poultry-keeping farmers just as the National Poultry Council stands for the specialist breeders and poultry-farmers; and since the interests of all are practically identical there has been concerted action between the two bodies on several occasions, with excellent effect.

This preamble is by way of submitting that modern poultry husbandry is worthy of the general farmer's practical interest. Moreover, it should make it clear that anyone who contemplates engaging in poultry-keeping must consider the industry as it is to-day, after thirty-five years of development, as distinct from the casual style of poultry-keeping engaged in by many of our forbears. The farmer must, if he would attain the same results as the specialist breeders and poultry-farmers, lay himself out to keep and breed the same class of stock, and to adopt similar methods of housing and management, so far as they fit in with his general conditions; for it must be remembered that poultry-keeping on a farm must be fitted into the business scheme. The farmer should, indeed, become a specialist himself, in the sense that his poultry must be under the direct control of someone who understands modern principles, and someone who is interested in this particular branch and can be relied upon to accept full responsibility for carrying it on in an effective manner.

For these reasons it will readily be admitted that poultry-keeping on a commercial scale is not suited to the circumstances of every farmer. He is a wise man who realises his limitations and refrains from engaging in a business for which he, personally, has no time or special inclination, and to which he is unable to devote skilled labour. There are too many fowls of inferior grade kept on farms where neither man nor woman cares when or how the birds are fed; and there have been too many failures resulting from the care of poultry being entrusted to someone who neither knew nor cared about their requirements, nor even realised the special susceptibility of this class of stock to intelligent management.

The idea that the neglect of poultry-keeping by general farmers is due to contempt for what has for so many years been an insignificant side-line has little foundation in fact in these days. The commercial economy of poultry-keeping on a farm is so soundly established that it is not so much a question of faith as of convenience. A considerable number of farmers have taken up poultry on a commercial scale during the last few years; but it is apparent that unless a man is in a position to devote personal attention to this department, or unless a wife, a son or a daughter is specially interested and assumes responsibility, the only alternative is to add a skilled poultryman to the hired staff. To justify that expense the operations must, of course, be on a substantial scale; and since the majority of general farmers who have had no previous experience of commercial poultry farming prefer to start in a modest way, with the idea of building up out of profits—and out of experience—it is obvious that the question of labour and responsibility for management is one of the most important considerations.

But assuming that circumstances are so far favourable as to assure the personal interest and practical supervision—or the actual labour—of the farmer or a member of his family, there arises the broad question of policy. Poultry-farming is the term commonly used to describe operations on a holding of limited extent, where practically the whole of the available acreage is devoted to poultry; or where poultry is the main interest and the keeping of other stock or the raising of crops merely subsidiary. On the general farm the position is reversed, for poultry-keeping is subsidiary to other interests—at least until it asserts itself in the estimation of the farmer as the most remunerative branch of his business, as has happened in the past and will no doubt happen again. At any rate, the term "poultry-farming" can be applied to secondary commercial operations on a general farm as well as to the primary operations on a specialist poultry farm.

Specialised poultry-farming is so well established that the general farmer must to a very large extent work upon the same principles as the specialist. It is just as important for him to keep the most productive and economical class of stock, to house his laying hens on the scratching-shed or semi-intensive system in winter, and to study feeding methods so as to arrive at a system that will give the greatest egg yield at the least cost. But the farmer still has a substantial pull over the specialist because he is in a position to utilise an extensive holding in such a way that he can choose a fresh rearing ground every season, he can run his young stock wherever there is natural food to be picked up, and he can keep his laying stock in flocks sufficiently far apart to benefit his land, so that he can reduce the rent charge upon his poultry to a very low figure. On the other hand, more labour is entailed in the management of flocks that are scattered, say, over a hundred acres, than of those of the specialist who keeps two or three thousand hens confined within an area of ten or fifteen acres.

When every consideration is taken into account, and when the practical problems of the poultry farmer are weighed side by side with those of the general farmer, there is undoubtedly a substantial balance in favour of the latter, because his acreage enables him to practise the most economical forms of poultry management. The convenience of being able to move either young or old stock on to fresh ground is only one advantage, and in this case the poultry derive the privilege and the advantage from the land. But we must not forget or underestimate the fertilising value of poultry on agricultural land. Rough ground and neglected pastures have been reclaimed by running fowls in considerable numbers for one or two seasons. In Orkney, where there are more poultry to the acre than in any other county in Great Britain, vast tracts of land have been brought under cultivation through the agency of poultry, and poultry manure has almost entirely taken the place of artificial fertilisers.

There has been some misapprehension in the past as to the effect of running poultry on old pasture land; but although it is obvious that grass may be badly worn where the fowls are run very thickly, there is nothing to be feared from running, say, a flock of 200 hens on a field of seven or eight acres. Some thirty odd years ago, when I was farming in the Midlands, I was told that I should ruin some of the best grazing land in the parish by allowing my poultry to run over it. But after three years the pasture was very much better than it had ever been before, and the most convincing proof was that the fields were grazed most closely in the vicinity of the poultry houses. Since then I have noticed on many occasions that where fowls run and feed, and spread their droppings, a rich crop of grass and clover springs up, which is kept closely grazed by horses and cattle.

SUCCESSFUL ENTERPRISES.

Before proceeding to deal more fully with some of the modern phases of farm poultry-keeping, and to emphasise some of the more important factors, I propose to submit a few examples of successful enterprise which are, I believe, typical of thousands. I select these because they have some bearing upon the question of the manurial value of poultry upon agricultural land, and it is a reasonable supposition that general farmers will take a more practical interest in poultry-keeping if they are satisfied that the fowls contribute something, in addition to their eggs, to the general scheme of agricultural operations.

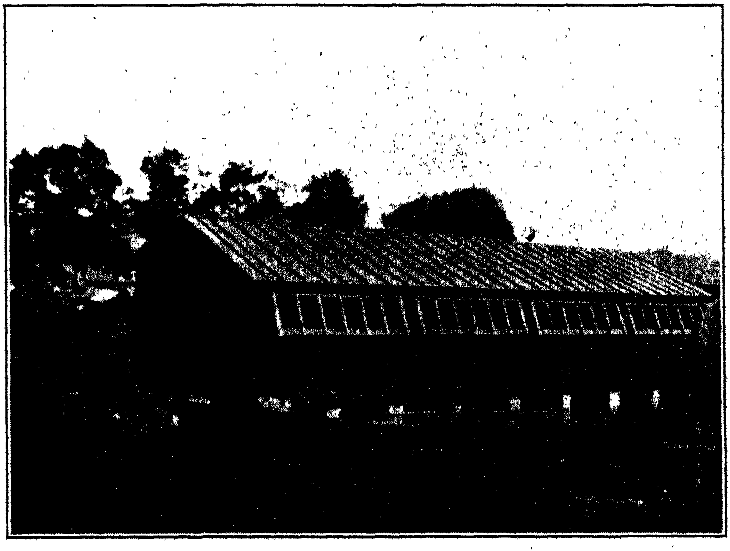
The first instance concerns a poultry farm which was started ten years ago on an extensive estate in Perthshire, to which I am not at liberty to refer by name. The beginning was upon a very modest scale, with four breeding pens containing fifteen hens and a cockerel in each; and there can be little doubt that this is the most economical as well as the most discreet way of commencing to build up a flock of poultry. The cost of building up a large flock from a limited number of breeding hens must, of course, be regarded as capital expenditure; but the outlay is divided over several months, and in the meantime a certain amount of revenue is coming in. In this case the first two years entailed steady expenditure as the flock was built up; but a profit was made in the third season, and since then the farm has gradually been extended out of profits, and double the original capital has been paid back. The farm carries about 500 second season hens and 500 or more pullets. About 1,500 chickens are reared every year, and it is regarded as very satisfactory if 600 pullets mature. These birds are trap-nested throughout their first laying season, and breeding is practised on strict pedigree lines, so that a good trade is done in day-old chickens and eggs for hatching. However, the farm depends mainly upon commercial egg production, and stock-taking each year is on a break-up valuation. A man and a boy are employed on the farm, and the manager puts the net profit at about 7*s.* 6*d.* a bird in a year.

The land is 200-year-old pasture, and I am assured that it is greatly improved by poultry, provided the birds are not too thick upon the ground. The manager of this farm suggests 100 fowls to the acre, though in some cases a greater number are carried. On this establishment most of the adult stock are kept in pens; but all growing birds are run on free range until they go into the laying houses.

With reference to manurial value the manager of this farm told me of an experiment made by the local "vet," who manured one portion of a pasture with poultry droppings, while another was dressed with lime and a third was not manured at all. When the grass grew cattle were put upon the land, and the portion which had been treated with poultry manure was grazed bare before the other two parts were touched.

I came across a good example of general farming, where poultry-keeping is the most important branch, at West Haddon, Northamptonshire, where Mr. W. C. Parnell farms about 111 acres, mostly good cattle-grazing land. This is a specially interesting case because, although Mr. Parnell himself has made a particular study of poultry-keeping, and he supervises the operations, he has business interests which necessitate his absence from the farm, so that he employs a skilled manager and an assistant, and still gets sufficiently good financial results to indicate the opportunities of earning profit by those who are able to do the work without employing outside help.

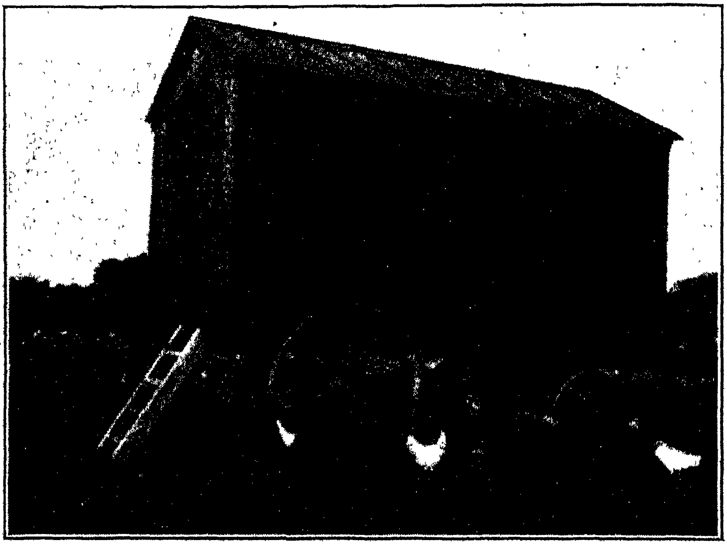
This farm has been built up by degrees. At present the laying stock consists of about 1,400 pullets and hens, and it is intended to increase to 2,000 head, which will be distributed more or less evenly over the whole farm. Laying houses holding either 150 or 200 hens, fitted with scratching quarters, trap-nests and all utensils for feeding, confinement of broody hens, etc., are set up in the fields, there being one house to an enclosure of some six or eight acres, so that the birds have practically unlimited range. The effect is that a few square yards in the immediate vicinity of each house are worn bare, and in dry weather the fowls scratch holes and dust among the loose soil. Beyond that, however, there is no apparent detriment; and, as is usually to be noted, the grass is kept well grazed within a fairly wide radius upon that portion over which the hens range.



ONE OF THE HOUSES FOR 200 LAYING HENS ON MR. W. C. PARNELL'S FARM AT WEST HADDON, NORTHANTS.

A similar house is set up in each grass field.

This method of running laying stock upon the general farm is certainly the most economical in one sense, though it entails additional labour in feeding, trapping and shutting-up—an essential precaution in a fox-hunting country. All food is taken round in a cart, and droppings are collected in a similar manner ; but there are special facilities on this farm for reducing labour over the water supply ; for in nearly every field there are springs which afford a constant supply of water. With regard to the droppings, Mr. Parnell testifies to the remarkable effect upon mangolds. A generous dressing of poultry manure produced in the summer of 1928 a crop of mangolds of exceptional weight and quality, thereby eliminating the cost of artificial fertilisers ; while excellent results have been obtained through using the poultry manure for dressing meadows and seeds.



A FOOD-STORE BUILT UP ON THE FRAME OF AN OLD TRACTION ENGINE.

A useful contrivance for keeping poultry food in outlying fields.
On Mr. W. C. Parnell's farm.

Although neither the owner nor any member of his family participates in the actual work of the poultry farm the operations are carefully supervised, and the accounts indicate a steady growth of financial stability. By putting up one new laying house every year Mr. Parnell considers that he is countering depreciation in the most satisfactory manner. He charges a low rent to his fowls because they contribute to rather than depreciate the grazing quality of the land ; while the heavy labour bill is justified not merely by necessity but by the sales of eggs for hatching, day-old chicks and stock birds as a result of the policy of breeding for egg-production on pedigree lines.

At the annual Poultry Conference at the Harper Adams Agricultural College, in August last, Mr. W. Pearce-Ellis, a general farmer, of Maisemore Court, Gloucester, read a paper on farm poultry management, in the course of which he stated that although his wife had kept poultry for some years he became personally interested in the venture when he discovered that the poultry accounts showed a steadily increasing net profit, while as a general farmer he was making a steadily increasing net loss. He went so far as to express the view that before very long farm poultry would be one of the mainstays of British Agriculture, though he thought it would continue to be mainly the work of women. He, too, testified to the value of poultry manure. In 1928 he put droppings from the laying houses on four acres of sugar beet (four cart-loads to the acre) and the crop weighed 16¼ tons to the acre, whereas on another four acres which received the same cultivation, except for the poultry manure, the crop produced only 8½ tons to the acre.

In reply to questions as to profit Mr. Pearce-Ellis stated that the average profit on 3,000 head of laying stock was roughly 7*s.* 6*d.* a head, but it was relatively higher with 2,000 or 1,000 birds. This coincides with the general principles of commercial poultry farming, in which it is estimated that the rate of profit automatically decreases as the flock increases, for the reason that it is more difficult to maintain the same high standard of managerial efficiency with a large flock as with a smaller one. Mr. Pearce-Ellis has had laying houses holding 1,000 hens, some for 500 and others for 150, 75 and 50. In reply to a question which I put to him as to what he considered the most economic unit he expressed the opinion that the size of flock must be decided by the farmer himself in accordance with circumstances. If he keeps 600 head of layers then the 150 unit is the right one; but if he keeps 3,000 the 500 unit will be more suitable. The whole thing, as Mr. Pearce-Ellis says, resolves itself into a question of costs. The farmer with 3,000 head of laying stock will find that units of 150 are very costly compared with those of 500, and his experience is that the flock average yield is not greatly affected. On this point Mr. Pearce-Ellis is in agreement with many modern commercial egg-farmers, to whom the large flock means a great saving of labour; and this farmer's preference for large flocks is explained by the fact that his operations are on the lines of the commercial egg-producer rather than on those of the pedigree breeder of laying stock.

In this connection it may reasonably be considered whether it is better for a general farmer to engage in actual breeding operations on pedigree lines or to content himself with the comparatively simple task of producing eggs and chickens for the market. Apparently it is just a matter of opportunity; and it might be assumed that a farmer would go in for the branch which he understood and in which he was most interested. But this point opens up a very wide question, and we may well consider whether the commonly accepted modern principles of poultry management on a general farm are really as economical as they might be, and whether a farmer is wise, for instance, to try to breed, to hatch and rear chickens, to raise pullets and to produce eggs; in short, to be a jack-of-all-trades in the poultry business instead of striving to do one thing particularly well.

Many people who have watched the trend of the poultry industry during recent years believe that efficiency and success in the future depend mainly upon specialisation in the various branches. They point to certain developments in America—notably to the hatcheries, which supply chickens from pedigree-bred stock cheaper—and better—than farmers could produce them for themselves. They forecast the growth of the hatchery movement in England, where there is a constantly growing demand for day-old chicks, and especially for day-old pullets of sex-linked first crosses; and they declare that in a few years' time it will not be necessary for anyone to keep breeding stock unless he is specially interested in that branch of the poultry business. The commercial egg-producer will buy either day-old chicks—preferably day-old pullets—or half-grown or fully grown pullets; so that in the first case he will cut out the cost and trouble of keeping breeding stock and hatching by hen or by incubator, or in the second case he will eliminate all the troubles and the risks of rearing and devote his accommodation and his efforts entirely to the management of hens for egg-production.

If, as seems quite likely, the evolution of the poultry industry proceeds along these lines it is apparent that opportunities will arise for farmers in every department. For those who are interested in breeding, and are prepared to assume the responsibilities of pedigree work, there will always be openings for enterprise, since the dependence of commercial egg producers upon the specialised work of skilled breeders will automatically create a preference for healthy stock reared and kept under farm conditions. Whether the specialists in egg-production renew their flocks by the purchase of day-old chickens or of fully reared pullets, the farmer will have opportunities of catering for either demand.

But while we may expect to see an increasing number of farmers engaging in the fascinating and remunerative occupation of breeding pedigree laying stock—not merely for the sake of winning laying contests but more particularly to supply suitable stock for commercial egg producers—it may be concluded that specialisation will have a beneficial effect in increasing the nation's egg supply by simplifying matters for that very large section of the farming community which suspects the practicability of anything savouring of scientific or rational research, from which modern poultry-keeping has derived so much. Farmers have told me that they are afraid to go in for poultry-keeping as practised to-day; it seems so complicated. There is first of all the breeding, entailing trap-nesting and record-keeping; then there is hatching—by artificial means, of course, so that if anything goes wrong through a simple error on the part of a tyro a whole season's operations are spoiled. But even if all goes well, there is the rearing; and everyone knows—or will know before he has been long engaged in poultry-keeping—that chicken-rearing is the most critical operation of all. So that the farmer who has not enjoyed a liberal education may well be appalled by the prospect of having to become an adept in breeding, hatching and rearing before he approaches the more commonplace work of feeding and managing hens for the sake of their egg-production.

This objection on the part of farmers who, besides having other interests requiring their attention, are somewhat shy about engaging in an industry which imposes so many responsibilities, is perfectly reasonable; and I am convinced that we shall be more successful in inducing general farmers to engage in poultry-keeping on a commercial scale if we can relieve them of some of the more difficult tasks and enable them to concentrate upon the management of laying stock. Moreover, I consider that this process of specialisation will lead to better results, so long as the general poultry-keeper, as we may describe the person who merely keeps laying stock, will make the best use of the advantages created for him by the specialists in breeding, hatching and rearing.

For example, it is obvious that a specialist who is concentrating upon the development and fixing of commercial laying character will turn out a better class of stock than the jack-of-all-work who is breeding, hatching, and doing everything for himself in addition to keeping a flock of layers. Likewise a specialist in incubation, who has every facility and convenience besides expert skill, will get better hatching results than the general practitioner. So that if the farmer gets his breeding and hatching done for him by skilled specialists in those branches, and if he relies entirely upon those sources for the supply of day-old chickens, he may reasonably be expected to raise a more economical and productive class of stock, which will give a substantially higher yield of eggs.

Reference has already been made to the practice of buying day-old pullets from sex-linked first crosses; and it is quite a reasonable supposition that if the present-day trend towards specialisation proceeds as we anticipate the sex-linked first cross will become another important economic factor, because it reduces the costs and risks of rearing by half and it eliminates the problem of what to do with surplus cockerels. It is much to be regretted that table poultry production has not advanced in this country at the same rate as egg production. The producer of eggs has contributed toward this situation by cultivating strains in which table qualities are sacrificed to laying character; and apart from the specialist producers of table poultry in Sussex and Kent comparatively few people are sufficiently interested in raising chickens for the table to combine table chicken production with egg production on a commercial scale. During the next few years it may be hoped that greater interest may be aroused in the marketing of cockerels through the practical work of the Southern Breeding Station of the National Poultry Institute, which is investigating the most economical and efficient means of producing poultry flesh; but for the present it is obvious that a very large proportion of poultry keepers regard the disposal of cockerels as a problem which can best be solved by cutting losses and getting rid of them as early as possible.

THE SEX-LINKED FACTOR.

For this reason, and also because many farmers lack opportunity for marketing cockerels, the sex-linked first cross is likely to become a very important factor in farm poultry-keeping; and Professor R. C. Punnett, of the School of Agriculture, Cambridge, who discovered the sex-linked factor in certain crosses, may come to be regarded as a patron saint of poultry husbandry. Up to the present the poultry industry has been somewhat slow in recognising the advantages of the sex-linked first cross, probably because the principle of pure breeding has become so firmly established, and has yielded such excellent results, that the departure of crossing is regarded as too revolutionary, and even retrogressive. Nevertheless, the development of commercial poultry-keeping necessitates the trial of any method which promises to lead in the direction of economy and efficiency; and those of us who have made an exhaustive investigation of sex-linkage have been so much impressed by its possibilities that I feel justified in giving further particulars of what I believe will be one of the most influential factors in farm poultry-keeping of the future.

The sex-linked factor occurs in certain crosses; and the fact that only a limited number of breeds can be used for sex-linked crosses is the one drawback. At present the sex-linked factor is obtained by crossing a male of a red or gold breed with females of a silver breed; or a male of a black breed with females of a barred breed. In the former case the most popular crosses are Rhode Island Red × Light Sussex and Brown Leghorn × Light Sussex. The White Wyandotte ranks as a silver for sex-linkage if the stock are genuine Wyandotte bred and have descended from the Silver Wyandotte; but so many modern laying strains have been "improved" by the introduction of White Leghorn blood that many White Wyandottes fail to give the sex-linked factor. We have, therefore, a very limited choice of popular laying breeds with which to make suitable crosses for commercial egg production. In the black-barred class the most popular cross is the Black Leghorn × Barred Plymouth Rock; and this, being a light-heavy cross, would gain many adherents if more pedigree-bred Plymouth Rocks were available.

The effect of making a cross with these approved breeds is that the sex of the chickens can be detected at birth. In the gold-silver section the male chickens, favouring their mothers, are of a lighter shade of down, with a little black marking on the head; and they grow up with the general colour characteristics of their female parents. On the other hand, the female chickens are born with a darker shade of down, and they grow up with the colour characteristics of their sire. In the black-barred section the male chicks have a white spot on their heads, while the females have black heads and are generally indistinguishable from the chickens of pure Black Leghorns. The detection of the sexes is a very simple matter for an experienced person, even with crosses in which excess of black pigment in one or both breeds tends to mask the sex distinction. In the crosses mentioned, however, very little practice is required to enable a novice to detect the sex of the chicks as soon as they are hatched.

It is obvious that the sex-linked first-cross presents a substantial advantage to the farmer who desires to concern himself solely with commercial egg-production; and already it is significant that reputable breeders who make a special feature of these crosses find the demand for day-old chickens so greatly in excess of each season's supply that they are constantly increasing their stock and incubator accommodation. One breeder assures me that orders are so heavy—and almost entirely from farmers—that he foresees the time when he will devote himself entirely to the breeding, hatching and sale of day-old sex-linked pullets.

In this connection, and especially because many more breeders will, no doubt, discern the opportunity for enterprise, it is necessary to emphasise the primary importance of employing well-bred pure stock to make the crosses. Contrary to certain beliefs, sex-linked first crossing does not imply the abandonment of pedigree methods of breeding. Selective breeding is even more necessary than ever, because only the best established strains will resist the tendency to reversion when the first cross is made.

One of the popular objections to crossing is the danger of reversion, and it has been assumed that when a cross is made one loses some of the desirable qualities which have been fixed in a pure breed. But an exhaustive test of the effect of the first cross has revealed the fact that while there is no loss of productive power in the progeny of the first cross there is a quite considerable gain in physical power and resistance to disease. During the last five years the National Egg-laying Test has included a section for first-cross pullets, and in practically every case the average production of the cross-breds has been higher than that of the pure-breds. In the most recent test, for 1928–29, the first-cross birds averaged 207 eggs a bird in 48 weeks, whereas the average over the whole flock of birds competing in the test was 185.

It will be gathered, therefore, that there is nothing retrograde about the policy of breeding first-crosses—especially sex-linked first-crosses—for egg-production, so long as equal care is taken in selecting the stock for crossing as would be the case for pure breeding. To ensure a successful cross a breeder must maintain the two breeds with which he intends to make the cross, and he must develop each on strict pedigree lines. That, it may be contended, is rather complicating matters for the farmer; but it emphasises the advantage of the specialist policy to which I have already referred. If a farmer can buy day-old pullets from a reliable source, why should he deliberately complicate matters by trying to do the breeding and hatching better and cheaper than the specialist in those branches?

I am not necessarily recommending the keeping of first crosses as the most remunerative policy in every case; but its economic advantages are obvious, and I consider that this factor will have an important influence in a great many cases where farmers are deterred from taking up poultry-keeping through distrust and limited experience of the more highly specialised branches of the business.

SPECIALISATION IN CHICKEN-REARING.

But this is by no means the limit of the tendency toward specialisation. It has already been stated that chicken-rearing is the most critical of the poultry-keeper's operations, for which reason many people are asking for ready reared chickens that have survived the delicate and dangerous stage. Moreover, increasing effort is being made to meet this demand, and reference may be made to an interesting departure on the estate of Mr.

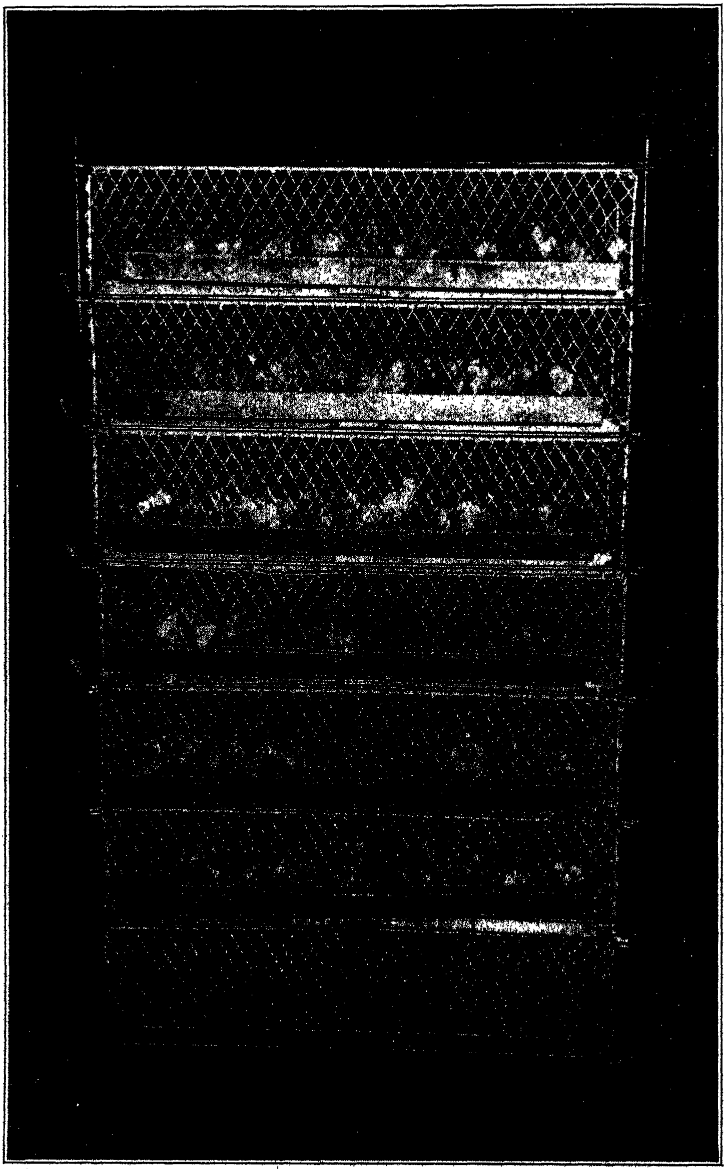
Morris Greenhill, at Furnace Farm, Cowden, Kent, where a new system of rearing has been installed to facilitate the production of large numbers of chickens that can be sold when half-reared or fully reared—in any case, when they have passed the critical stage. The method is an adaptation of the American "battery" system, and the young chickens are accommodated in wire cages, seven tiers to a battery, and each cage holding about 120 chicks. They live on strong wire floors, so that all droppings fall through into a tray; and it is believed that this method will help to overcome the heavy chick mortality arising from infection through the droppings. The chickens live in a uniform heat, which is regulated according to circumstances; and they are fed in such a manner as to supply all the requirements of the system. Any ill-effects that might be supposed to result from continuous confinement in a cage, and from lack of sunshine, are counteracted by means of cod-liver oil and such additions to the diet as will supply all the necessary vitamins. At any rate, I can testify to the remarkable size and vitality of the chickens reared by this method, since some of the chickens I saw in the cages had been there for six weeks, and were no whit inferior to birds of the same age that have been reared by normal and natural methods.

By courtesy of] [*Poultry and Poultry Husbandry.*

THE "BATTERY" BROODING HOUSE ON MR. MORRIS GREENHILL'S FARM AT COWDEN, KENT.

The heat is supplied by a boiler in the lean-to shed, and the temperature of the house is regulated by a thermostat.

This development must therefore be regarded as something more than a freak; and if pullets reared by this method prove



By courtesy of] [*Poultry and Poultry Husbandry.*

THE "BATTERY" SYSTEM OF BROODING.

Showing a section of the battery, in which each of the seven tiers holds 120 chickens. They run on a wire floor, with a tray underneath, and feed from troughs attached to the sides.

to be equal, in a physical and productive sense, to others, it is apparent that another effective step will have been taken in the direction of supplying farmers with reared chickens of the most desirable class, at a cost which will indicate the direct economy of specialisation. It will, at any rate, be an incentive to keeping poultry on the general farm when pullets of good productive character can be bought at a month or six weeks old, and all the troubles and risks associated with chicken rearing can be eliminated.

LANCASHIRE EXAMPLES.

Whether it will be equally economical and remunerative for commercial egg-producers to purchase matured pullets near the point of laying is a matter requiring careful consideration through investigation of the cost; but there are some notable instances where this policy is practised. At the Grange Farm, on Lord Vestey's estate near Preston, in Lancashire, where about 20,000 layers are accommodated in 180 cabins, each 24 feet by 12 feet, and holding about 110 birds, distributed over an extensive acreage, all the pullets are purchased, there being no accommodation for hatching and rearing. On the same farm 30,000 day-old ducklings are bought and reared for table purposes every year; and it may be assumed that the extent of these operations render it impossible for one farm to undertake the breeding, hatching and rearing operations essential to a self-contained and self-dependent poultry farm.

Lord Vestey's farm is one of many hundreds of poultry farms round about Preston and in the Fylde district of Lancashire, where for some years past poultry-keeping has become the most considerable branch of agriculture. There are no apparent climatic or geographical reasons why this part of Lancashire should become the most populous centre of the British egg-producing industry; but judging by the number of successful breeders of laying stock in that part of the country there is a native genius for poultry-keeping, and there is in addition a high standard of efficiency in management and a keen appreciation of the importance of costings.

It might be assumed that every farmer in the Fylde district is already a poultry-keeper; but recruits are constantly being enrolled, and I came across an instance where the son of a large farmer near Blackpool became interested in poultry some four or five years ago. Despite the parental warning the young man commenced on a moderate scale in the approved local style; and the consequence is that the father has since become the senior partner in the venture, and the farm now carries several thousand head of laying stock.

The presence of large establishments devoted mainly to egg-production, such as that on Lord Vestey's estate, naturally indicates the existence of other farms which are given up mainly to the raising of pullets. There are some farms of this class in Lancashire, and I have come across others in South Devon, where the only adult stock on the place have been selected specimens from which a large flock of pullets may be bred. These birds are sold off at varying ages, and only sufficient are retained to make up the breeding pens for next season. This is a form of enterprise that presents possibilities for farmers with a taste and facilities for breeding and rearing, for it is obvious that pullets can be raised most economically and successfully where free range is available.

While Lancashire affords the most notable example of a whole district engaging in poultry farming, there is ample evidence of the rapid development of this industry in nearly every English county. Moreover, it is no longer assumed that a poultry farm must be adjacent to the large centres of population in order to become a commercial success. Some of the most prosperous egg-producing concerns I have come across are on the North coast of Cornwall, whence the eggs are dispatched by rail to London at a rate which compares very favourably with the cost of transport from much more convenient centres. The favouring factor in this particular case is that a number of farmers and poultry-keepers in the district combine to fill a truck once a week, or more frequently; and this example of co-ordination is worth bearing in mind.

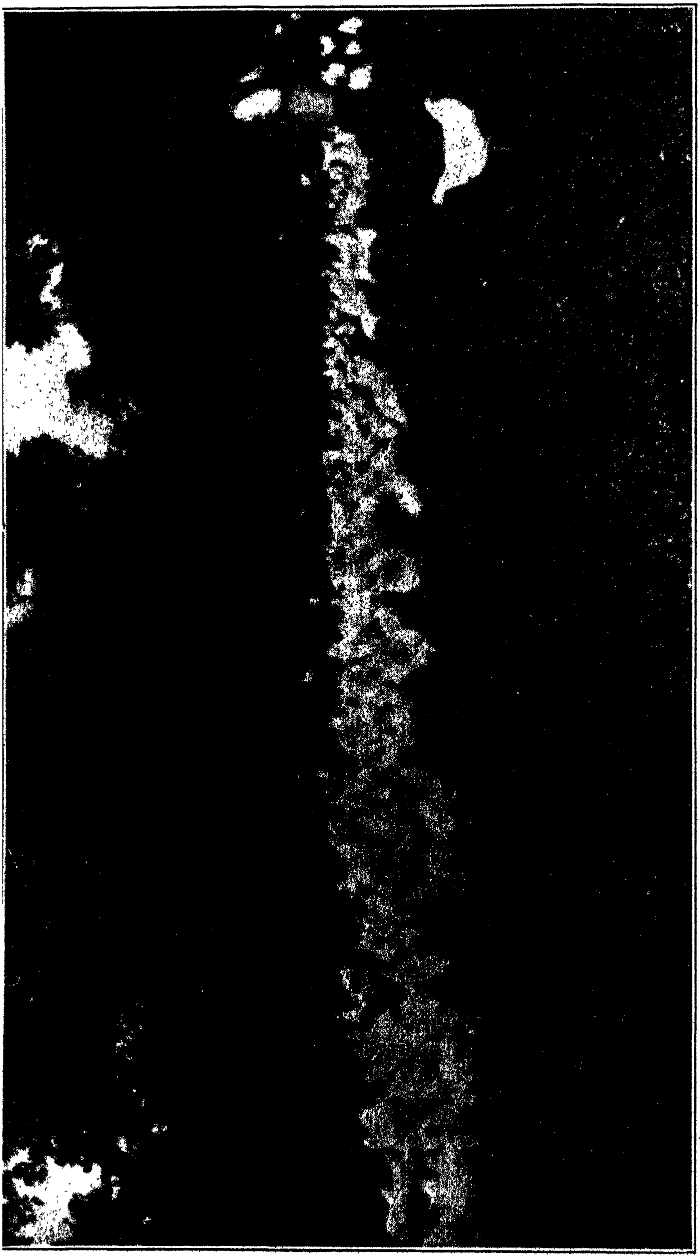
In the home and southern counties specialist poultry farms are becoming very numerous, though it is apparent that there is room for more rapid development on general farms. It is significant, however, that where a large specialist poultry farm is established there is immediately a quickening of interest in the industry among general farmers. That example is better than precept has been established in this particular instance; and if farmers are naturally cautious they are certainly not slow to seize an opportunity when it presents itself, which is proved by the large proportion of general farmers among what may be called the leaders of the modern poultry industry.

The general principles of farm poultry-keeping differ very slightly throughout the country, and to the casual observer the main difference between north and south is in the type of laying-houses in use. In Lancashire and in the North generally, laying-houses are of the span-roof or Lancashire cabin type, designed to afford the greatest amount of protection in bad weather; whereas in the southern part of the country the majority of the laying-houses are of the open-fronted pattern, fitted with adjustable shutters and admitting plenty of light and air. A farmer should therefore be guided by local practice; and unless he has had some experience of laying-house design and construction he will be well advised to seek expert guidance so as to obtain the most efficient accommodation without defects in lighting and ventilation.

On some farms the cost of housing has been reduced considerably through the conversion of army huts, which are well suited to this purpose because the windows on each side afford plenty of light and facilitate ventilation. On one commercial poultry farm near Heathfield, in Sussex, a large wooden building formerly used as a cinema in a neighbouring village has been converted into a laying-house for about 1,700 hens, which affords an example of the intensive methods adopted by some specialist poultry-farmers whose purpose is to reduce labour costs and to keep as large a number of hens as possible upon a limited space. Such a policy is not likely to appeal to the general farmer, who derives substantial advantage from his ability to run his flocks on the free range or extensive plan, so that they are such an asset in benefiting the land that only a small sum, if any, can be charged to them for rent. The plan to which I have already referred, of distributing the laying stock about the farm, in flocks of 100 to 150 birds, with a house in each field of six to eight acres, is unquestionably the most practical and economical, provided assistance is available for feeding, shutting-up and managing a large number of fowls spread over a wide area.

In this connection I would like to refer to the great economy of running growing pullets and other young stock on what may be called the colony system. As soon as the chickens are strong enough to be drafted from the brooders they are taken out to the fields and put into small houses or arks, which, being fitted with slatted floors, entail little or no labour beyond moving them a few yards each day. By this means a field which is in need of intensive manuring can be treated at a very modest cost, for with daily movement of the houses or arks the whole field is covered with the manure dropped during the night. I have seen this plan adopted in the case of stubbles by drafting a large number of growing fowls as soon as the crop was removed and covering the whole field in a methodical fashion, with the result that a heavy crop of roots was obtained in the following year. Another farmer I know uses an enclosure for rearing pullets for two seasons and then ploughs it up, thereby obtaining a considerable amount of rich fertilising material in the soil.

Night arks and small portable houses are very useful to the general farmer, enabling him to move his growing stock to points of vantage, such as the meadows after hay-making, or the stubbles after the harvest is carried, there to glean grain and seeds and all manner of natural food, and at the same time to assist in fertilising the land as no other class of stock can do.



By courtesy of] [*Poultry and Poultry Husbandry.*

FARM POULTRY ON THE COLONY PLAN.

Pullets on free range before being drafted to the laying-houses.

But accommodation of this kind is essentially for growing or non-laying stock, and pullets must be drafted to the laying-houses or scratching-beds before the autumn season of egg-production commences.

This review of the present position of poultry in agriculture would be incomplete without reference to the marketing of produce, which is one of several matters affecting poultry-keeping to which the Government of the country has devoted considerable attention. After many years it has at last been established that producers and consumers are of more importance than distributors by the issue of an Order in Council requiring all imported eggs to bear an indication of origin, in order to prevent substitution; and at the same time the Government implemented, by means of an Agricultural Produce (Grading and Marking) Act, a scheme by which home-produced eggs might be graded, packed and marketed under a National Mark, which mark, it should be stated, is put upon the case or the carton, and not upon the individual egg.

The National Mark scheme is entirely voluntary, and it is not likely to displace individual marketing methods which are enabling producers to distribute their eggs economically and profitably. It should, however, be a great boon to farmers in outlying districts, who hitherto have been at the mercy of itinerant dealers or local tradespeople. Registered grading and packing stations have been set up in nearly every county; and though at this date it is impossible to say what modifications may be adopted to meet particular circumstances, it is already perfectly clear that marketing through the packing stations is the best means by which producers can retain control of the egg trade. The National Mark scheme will not only create more favourable marketing conditions, but it will inspire better methods of marketing, and it will put an end to the reproach that the general farmer is the worst purveyor of eggs in the country. Producers will find that it pays to market a fresh and a good article, for which higher prices can be realised; but that it will never pay to send stale and inferior eggs to a packing station where each individual egg is tested and defects are traced back to the producer.

There are many people who regard poultry-keeping as the most remunerative branch of agriculture under present conditions. Whatever that may mean, and whether we agree with it or not, it must not be assumed that it is either fool-proof or that success is assured to every poultry-keeper as a matter of course. The literal meaning is that assuming favourable conditions for economical management, personal interest, business supervision and some degree of technical knowledge coupled with a reasonable amount of common sense, the poultry industry does present exceptional opportunities for developing a source of revenue which few if any general farmers can afford to ignore in these times. It is one of the few branches of agriculture which yields a crop every day, and it is a business in which the womenfolk can and should participate. For though in the past many farmers were disposed to regard poultry-keeping as a woman's interest, that is no longer a reproach. It is an advantage to which the farmers of the future will attach especial value.

W. M. ELKINGTON.

Dalehurst,
Beaconsfield.

SAMUEL TROWELL'S FARMING THEORIES, 1739.

TROWELL's book *A New Treatise on Husbandry* is mentioned in most of the bibliographies of Agriculture, and it has limitations as well as exceptional statements, that are not characteristic of his contemporaries. The most exceptional part of his work deals with Mr. Liveing's manure, the nature of which is not disclosed. It was a secret preparation composed of "foul salt fermented with other ingredients to be had in great plenty in all parts of Great Britain" (see *Best Mine above Ground*), and the Preface to the *New Treatise* is an encomium upon its virtues. It was omnipotent. It increased seed, and strengthened the plant; it destroyed rushes, grubs, moss and worms; it preserved turnips from fly and killed snails, slugs and all other insects; and it could be carried to the field on horses' backs, thus saving cost and the damage caused by heavy wagons. It was also excellent for steeping seed, as a prophylactic.

Apart from this idiosyncrasy, which was no more harmful than many others of the times, the book contains a great deal of sound common sense, although it does not, as Ellis points out in his edition, make sufficient allowance for the variations in soil, when setting out its instructions for the cultivation of the different crops.

I am, however, at a loss to gather from Donaldson's note (*Agricultural Biography*, 1854) whether he thinks well of Trowell or not. He says that the book is in a well-arranged and concise order, and adds that "Trowell may have been of the legal profession, as his work is dedicated to the Treasurer and Masters of the Inner Temple, to whom he had acted as Steward. He shows himself to have been an educated person and had travelled much over the kingdom."

The notice is not concluded on a very admiring key. "Educated amateurs," says Donaldson, "are more deficient in practical calculations than on theoretical conceptions. The former too often overturn the stability of the latter, and throw a discredit on the most plausible entertainments. Practice with all its dogmas is ever required to guide and sober down the flights of ideal states of existence."

This dubiety is probably caused by the emphasis upon Mr. Liveing's manure. A more practical suggestion, and one that is used to-day on many of the small holdings of Central Europe, is that a watering-cart, like that used on the London streets, should be used for watering fields with "the Soak of a Dunghill, 'twill be of great service to them, being a very good sort of Manure, and a fine moistening of the Land." Again he utters a warning against throwing seeding weeds on the dunghill, because the seeds will inevitably be carted on to the land.

He deals with the crops in the order of their importance, commencing with wheat, and uses the heading "The Quintessence of Agriculture" for the first page of the letterpress. A comment on the fashions of the day is contained in the chapter on Barley. "Barley is a grain of great Use and Profit, in respect of its Production of Beer, Ale and Spirits, which occasions a larger use of it than any other Grain." In a later chapter dealing with Hops he says they "are become an universal Commodity for the preserving of Beer, though formerly very much decryed."

The result of the publication of Tull's book (*Horse Houghing Husbandry,* 1731) was not immediate, but Trowell was in favour of an improved method of sowing pease. "The common Method of sowing Pease is by Casting, but for the Benefit of the Farmer, rilling is best, though many Persons chuse the Charge of setting them with a Dibber, about a Yard long, and set with Teeth about four or five Inches deep, and an Inch asunder: This is a very laborious Way, and double the Charge of rilling, which is soon done by the running of the Plough lightly through the Furrows, and followed by a Boy, who may cast the Pease into the Furrow, not too thick or thin; then let another Boy follow the former, and fill up the Furrow with his Hands or Hough." The cost of such labour was, of course, almost negligible [illegible] the time.

In the chapter on pease, Trowell mentions, as a matter of interest, that a gentleman in the New Forest had told him that he had sown field parsley and found it a good feed for sheep, that it was indeed "of more service to sheep and lambs than twice the Quantity of Ground in any other Grass."

Turnips had by this time come "very much in use in divers counties," but the seed drill was not yet in practical being, and Trowell advises that the seed should be mixed with sand in order to prevent it falling on the ground in clusters; and to save houghing. Similarly in sowing carrots in Norfolk and

Suffolk, he records that the sower walks backwards in order that the wind may distribute it more evenly. The carrot he recommends for human as well as animal food.

In this connection it is interesting to note that he remarks upon the adulteration of bread flour with brank or buckwheat, which is good for cattle, " though it is eat and made Bread in dear Years ; and 'tis often mixed with the best Flower, being so white in its kind."

Trowell dismisses clover, cinquefoil and lucerne very abruptly as grass seeds which have been brought from abroad, but says that they have been cultivated successfully. About hemp and flax he is more enthusiastic. Both were imported in large quantities and he wanted to avoid the expense of this import by having the raw material grown in the country. Of hemp, he says, we have much land that " would produce great Quantities, which is hardly good for anything else," and estimates an area of suitable land lying in the Isle of Ely, Wisbech, Bedford and Lindsey Levels and parts of Lincoln at 300,000 acres. Flax ought, he thinks, to be grown round Maidstone in Kent in addition to the land devoted to the crop in Warwick and Worcester, where it was not sown till April.

In part of this area, the Isle of Ely, parts of Cambridge and Huntingdon, rape was grown as a fodder crop, and fed to fatting sheep, which were sent in great numbers from here to Smithfield Market. When grown for seed the " edish " was used for sheep feed. The main grazing counties he enumerates as the West Country, Buckinghamshire, Northamptonshire, Bedfordshire, Warwickshire, Lincolnshire, Kent, Sussex, Essex, and the marshes in Middlesex, all of which fed great numbers of cattle, and the following remark is an early precursor of the latest theory of intensive grazing. " It is a great Advantage to the Feeder to have several Grounds to shift often, which bring Cattle forward very fast ; and in three Weeks, or a Month's Time these Grounds will be ready again to receive them ; which does add very much to the fatting of them." The modern system is, of course, to stimulate the new growth by heavy applications of fertiliser, but the method of close grazing seems to have been the practice in some districts for a very long time. This is notably so in the Welland Valley, where the quality of the pasture is maintained without any very great attempt to improve by manuring (J. Llefelys Davies, *Grass Farming in the Welland Valley*, 1928).

After dealing with water supplies by wells and with the draining of fields, Trowell passes on to forest trees, fruit trees, vines, garden plants and flowers, and completes his book with some observations on the works of nature in vegetation, but these are theological rather than scientific.

From page 154 he deals with the "Tariffe of a Farm belonging to Sir John Goodman, in the County of Kent, lett to James Plowman for 21 years by Lease dated—1720." I think it is doubtful whether these are genuine accounts, partly because of the names used, which look imaginative, and partly because of the uniformity of the yield of the grain and pulse grown. Wheat, peas, beans, barley and oats are stated to have yielded 5 qrs. each per acre ; not only is it unlikely that the same yield would have been obtained from all these crops, but such a yield of wheat is certainly unusually high for the time. The farm is stated to consist of 180 acres of arable and 20 acres of pasture and the rent to have been £100 per annum. Possibly some of the figures may be accepted, but the final balance is rendered doubtful by the premises on which it is based.

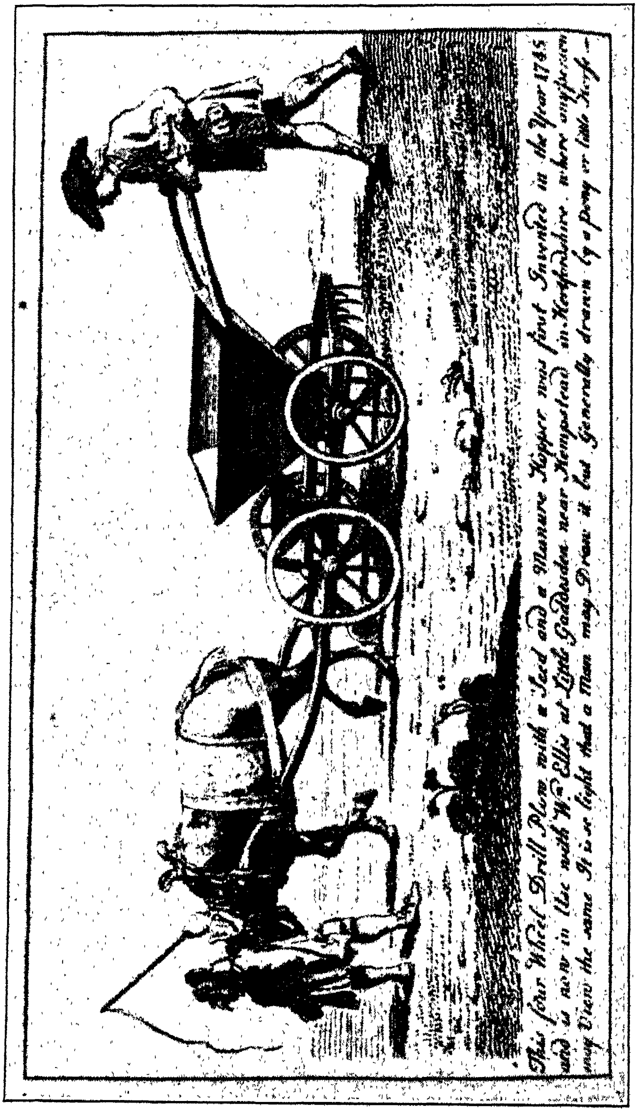
William Ellis of Little Gaddesden, Hertfordshire, that prolific writer on agricultural subjects, republished Trowell's book in 1747 and again in 1750 under the title of *The Farmers' Instructor*. The German edition referred to by Donaldson I have not seen. Ellis explains in his preface that he does not supplement the gardening notes since he thought that Trowell made up his deficiencies in agriculture by the completeness of his gardening knowledge. He does not forget, however, to advertise his combined seed drill and manure hopper although he cuts out all the instructions for the use of Mr. Liveing's manure, substituting the following recipe for a compost for one acre of ground :—

Take twelve Pounds of Common Salt, one Pound of Salt Petre in Powder and mix it with Twenty Bushels of Wood or Coal Ashes, finely sifted, and sow it over One Acre of Ground, after or before the Seed of Wheat, Barley, Oats or other Grain is sown in the Broad-cast Way.

He adds to each chapter of Trowell, excised in this way, a supplementary chapter, expanding and criticising Trowell's instructions. The form of criticism is usually that Trowell has not been sufficiently explicit; for instance, in dealing with wheat Trowell has said that it was not possible to plough too much for this crop. Ellis points out that in light soil too frequent ploughing is liable to be harmful, and that in thin chalky soil it is also bad. Again he points out that Trowell only mentions marshy land as suitable for rape, whereas Ellis himself sowed it every year on quite different types of soil. Such criticism is useful and this part of the contents of Ellis' edition may have been the reason that induced Donald McDonald to set out the book as a separate work in his *Agricultural Writers* 1200–1800.

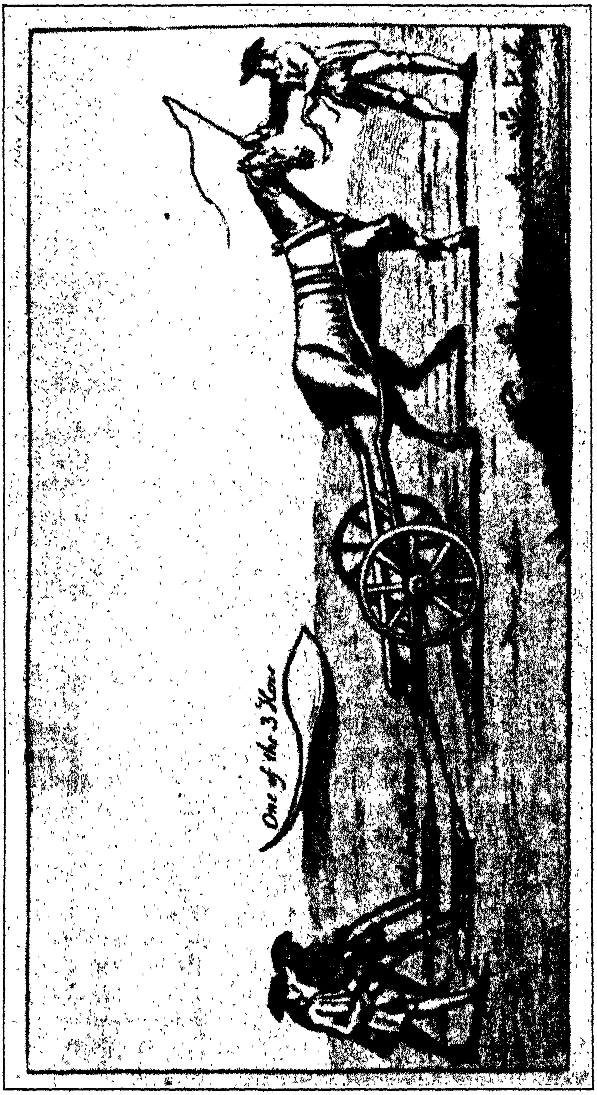
In his later edition Ellis includes *The Best Mine above Ground* and *The Compleat Seedsman's Monthly Calendar, shewing The Best and most Easy Method For Raising and Cultivating Every*

Sort of Seed Belonging to a Kitchen and Flower-Garden. . . . By a Gardener: both have continuous pagination.


This four Wheel Drill Plow with a Seed and a Manure Hopper was first Invented in the Year 1745
and is now in Use with Wm. Ellis at Little Gaddesden near Hempstead in Hertfordshire. where any person
may View the same It is so light that a Man may Draw it but Generally drawn by a pony or little horse

A COPY OF THE FRONTISPIECE TO "THE FARMERS' INSTRUCTOR," 1747.

The first of these was a pamphlet issued by Trowell in 1737. It was really an advertisement for Mr. Liveing's secret manure, and recites the benefits which would accrue to the nation if it were generally used. Trowell says truly enough that farming was at the time suffering from one of its frequently recurring periods of depression. Land was falling into hand and landlords



ANOTHER PICTURE OF ONE OF ELLIS'S MACHINES ADDED TO THE 2ND EDITION OF "THE FARMERS' INSTRUCTOR," 1750.

"This horse-break, first by working its three hoes, and after them the pair of gatherers, clears the interval ground of drilled corn, artificial grass and rapes."

were finding it difficult to let their farms again (see *Political and Social Letters of a Lady of the 18th century* (Mrs. Osborn of Bedford). Ed. by E. F. O. 1870, p. 49, but as to rents having been raised, *New Experiment in Husbandry for the Month of April.* W. Ellis, 1736, p. 105).

The result was that it was being laid down to grass, and the quantity of arable was being very much decreased (this sounds very modern, but the truth of the statement cannot be fully examined here: it was probably not an exact picture).

The use of the manure, which would be only a fraction of the present cost, would alter all this. While the farmer must spend from £3 to £6 to mend an acre of land with the available manures, Mr. Liveing's product would only cost about 12*s.* and the duty on the salt would be willingly paid since so large an economy in cost would be effected. Moreover, the additional output of grain would abolish the distresses inflicted upon the poor in years of bad harvest such as 1708 when the price of wheat rose from 3*s.* to 13*s.* a bushel in two months. The cost of subsistence would be cheapened and the consequent economy of labour charges would enable the kingdom to sell manufactured goods at competitive prices in foreign markets. At the same time so much grain would be grown in the country that it would become the granary of Europe. Indeed there was no end to the benefits of this manure. It was to be even more effective than all our modern panaceas, but unfortunately the farmers did not take it up with the same enthusiasm as Trowell.

The second addition to the book has a title which is self-explanatory.

Another beneficent scheme of Trowell's was set out in *A Plan for Preventing the Clandestine Running of Wool.* The country was much concerned about the supposed decline of the woollen manufacture, and this was supposed to be due to the large quantity of raw wool exported illegally to France, where it was made up. Trowell proposes a system of bonded warehouses to which all wool shorn by farmers or purchased by the Fell and Pell Mongers must be delivered. From these warehouses it would be sold to the manufacturers at a rate based on an average of years. Any wool not so disposed of at the end of the year would be used to occupy the unemployed in the processes of carding, spinning, and further manufacture. He adds an improbably large estimate of the annual production of wool, and goes into estimates of the costs of putting his scheme into action.

Apart from his preoccupation with Mr. Liveing's manure, Trowell's book no doubt reflects accurately enough the farming practice of certain districts. He does not always indicate these districts, however, but in the chapters dealing with some crops, he does set out the parts of the country where they are grown in the manner he describes, and this information is of value.

It is unfortunate that no details of Trowell's life seem to be extant, so that we cannot fill up the gaps he leaves in this information.

BIBLIOGRAPHY.

1. The best Mine above Ground; or, the most *laudable* and *certain* Means of *Enriching* this Nation, by improving our *Agriculture*; and procuring the best Manure yet invented, at the most *reasonable* Expence: producing thereby extraordinary Plenty; affording full *Imployment* for the Poor; and raising the *Public* a *Revenue* of near Two *Millions* yearly, without any Burden to the *Subjects* . . . 1737.
2. A Plan for preventing the clandestine Running of Wool humbly offered to the consideration of the Legislature . . . 4 pp. fol. (not dated "1739").
3. A New Treatise of Husbandry, Gardening, and other Curious Matters relating to Country Affairs: containing A Plain and Practical Method of Improving all Sorts of Meadow, Pasture and Arable Land . . . and making them produce greater Crops of all Kinds, at much less than the present Expence . . . with Many New, Useful, and Curious Improvements never before published. . . . The Whole founded upon many Years Experience. Pp. 164. 8vo. 1739.
4. The *Farmers'* Instructor; or, The Husbandman and Gardeners' Useful and Necessary Companion. Being A New Treatise of Husbandry, Gardening, and other curious Matters relating to Country Affairs. . . . First begun by Samuel Trowell, *Gent.* And Now compleated with a Supplement to every Chapter on Husbandry. . . . By William Ellis, *Farmer,* at *Little Gaddesden,* in *Hertfordshire.* Pp. 275. 8vo. 1747.
5. The second edition of 4, Containing also The Best Mine above Ground and The Compleat Seedsman's Monthly Calendar (see text): cont. pag^{n}. Pp. 254. 8 vo. 1750.

N.B.—I am indebted to Rothamsted Library for the last two books, which are not in the B.M.: the R.A.S.E. Library has also copies however.

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REPORT OF THE RESEARCH COMMITTEE.

THE work undertaken by the Research Committee during 1929 has again been of a comprehensive character. Progressive development has marked the activities of this Committee ever since its inauguration, and, naturally, as the inquiries advance they become increasingly engrossing and, it is believed, useful. New fields of investigation are being explored and the work already in hand takes new forms with widening experience and discovery in the elucidation of little known or imperfectly understood questions affecting crops and live stock and the attendant operations. The report upon the year's activities indicates both the scope of the work and its intimate bearing upon the actual management of the land, the crops it grows, and the animals it carries. The field for research is still extensive and the problems to be settled tend to become more complex and difficult as inquiry advances. The Committee are satisfied that there remains for their attention a wide sphere of needed and helpful investigation.

WORK ON LEGUME INOCULATION AND RELATED PROBLEMS OF 1929 AT ROTHAMSTED.

Issue of Cultures for Inoculating Lucerne Seed.—During the past season 1,933 cultures sufficient to inoculate 27,062 lb. of seed have been issued from the laboratory. Following the successful result of the field experiments on the inoculation of lucerne seed and the interest taken in the process by farmers, the business of issuing cultures to farmers has become greater than could be undertaken by the laboratory. This sale of cultures has now been undertaken by Messrs. Allen and Hanbury, who are working in close consultation with this Institution. Their bacteriologist, Mr. J. M. Drummond, has visited Rothamsted and been made familiar with the technical details of culture development.

Laboratory Work.—The bacteriological department here will now be free to pursue laboratory investigation of the relation of the host plant to nodule development and efficiency. This work has already given results that have been published in the form of three papers :—

"The Role of the Host Plant in Determining the Infection of the Root by Nodule forming Bacteria." By H. G. Thornton. 1929. *Proc. Royal Society.*

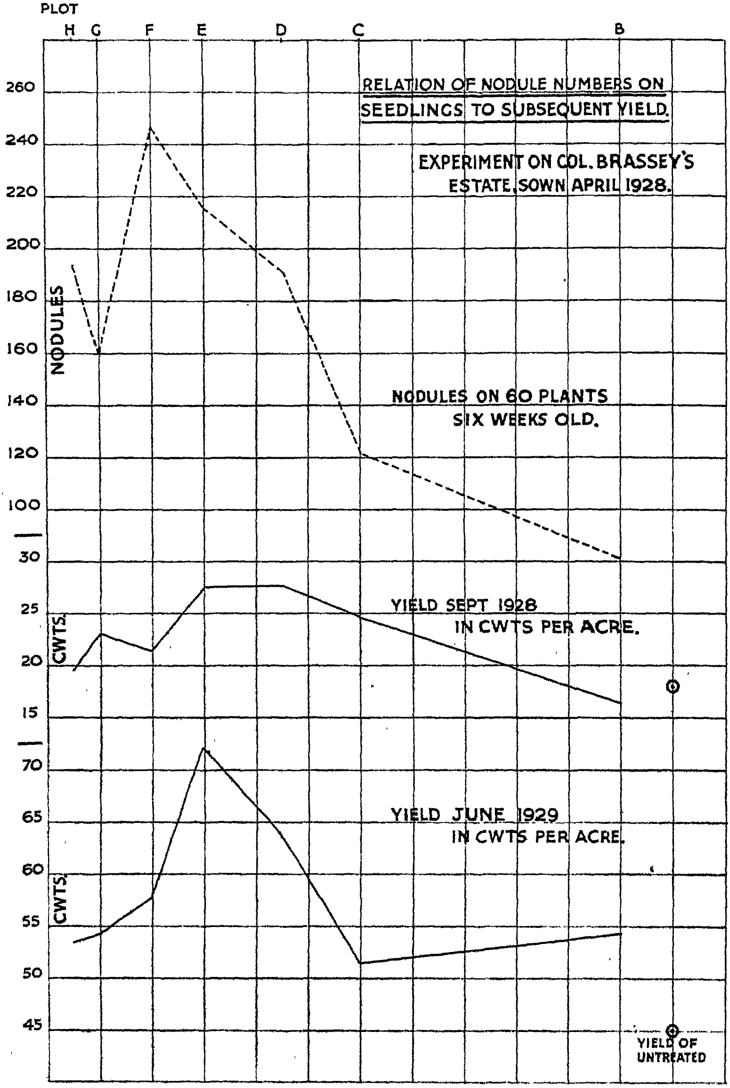
"The Relation between the Development, Structure and Functioning of Nodule on *Vicia faba.* By W. E. Brenchley and H. G. Thornton. 1925. *Proc. Royal Society.*

The Influence of the Host Plant in Inducing Parasitism in Lucerne and Clover Nodules. By H. G. Thornton. 1930. *Proc. Royal Society.*

During the past season work resulting in the last paper was completed. It was shown that where the plants were kept darkened the nodule bacteria became actually parasitic, destroying the nodule tissue, and that the disintegration of the nodules in the autumn is brought about by a similar change in the behaviour of the bacteria. These investigations are being undertaken in the belief that a better understanding of the relation of the plant to the nodule organism will throw light not only on the biology of legumes but upon the problems of plant disease bacteria.

Completion of the Field Trials now in Progress.—There are still field trials on inoculated lucerne now in progress at six centres. These were begun in 1925–26. It is desirable to keep these running as long as practicable to discover whether inoculated lucerne will stand for a greater number of years than untreated, since this point is one of obvious practical importance.

Trials are running on Colonel Brassey's estate at Slaughter to test how long bacteria will remain alive on the seed after inoculation and before sowing; and how long cultures can be kept before use. Both these are points of great importance to the method of seed inoculation. The preliminary results of the first experiment above mentioned have been published (*Journ. of Agric. Sci.*, Vol. XIX, pp. 48–70). They show that the farmer can safely store his seed after inoculation for at least a month without loss of efficiency of the culture. This is a point of great practical importance. It was also found that increasing doses of culture do not cause correspondingly great increase in the number of nodules produced or in the effect on the plant. No advantage is gained by excessive doses of the bacteria. The second experiment has shown that cultures may safely be stored for ten weeks before they are used and are in fact more efficient when a month old than when one or two weeks old. These experiments showed considerable variation between the different plots in the average number of nodules on six-weeks old plants. After two years there is still a corresponding difference in the yield of the plots. This result is of importance as it emphasises the need for a good development of nodules on young lucerne. It becomes of considerable interest to discover for how long this difference persists. Colonel Brassey has taken great pains to carry out these trials efficiently. It is of great importance that they should be run for this season in order that the results obtained may be made conclusive. The trials mentioned in this paragraph will need to be visited during the summer.



GRASSLAND IMPROVEMENT.

Shoby, Leicestershire.

This experiment, begun in 1923, was completed during the year, and a special article embodying the results appears at pp. 176 to 182.

MASTITIS IN COWS.

Research on bovine mastitis at the Institute of Animal Pathology, Royal Veterinary College, London, has been continued during the year.

1. As the result of examining material from 113 cases of mastitis in different parts of the country the workers at the Institute have acquired practical experience of the bacteria associated with disease of the udder. This survey has shown that while the majority of cases are caused by streptococci of two different types, there are two other species of bacteria which are commonly responsible for the disease.

On account of their greater importance the streptococci isolated have been subjected to more intensive study, the main object being to obtain a clearer conception of the varieties responsible for mastitis, in order that they may be distinguished from streptococci of other varieties which exist in milk. An article giving details of this work has now been published. (F. C. Minett, A. W. Stableforth & S. J. Edwards, 1929, *Journal of Comparative Pathology and Therapeutics*, Volume 42, pp. 213–231.)

An enquiry into the relationship of mastitis streptococci to streptococci responsible for human disease is now proceeding.

2. The problem of the diagnosis of mastitis is one of primary importance on account of the fact that many cases are occult in nature and cannot be readily diagnosed by clinical means. This problem has been engaging the attention of the Institute for the last two years and a good deal of experience has been accumulated, which it is hoped to present in two publications during 1930. One main conclusion is that diagnosis can only be carried out satisfactorily by laboratory methods involving cultivation of the causal organism. Other more simple methods which have been proposed, such as the brom cresol purple test and the so-called sediment test, although useful for certain purposes, have to be regarded as subsidiary.

3. With the information regarding diagnosis available, work on the eradication of mastitis has been continued in five dairy herds. The results on the whole are distinctly encouraging, but there are two outstanding difficulties which make the task more complex, viz., (1) the fact that udder troubles are caused by more than one variety of bacterium and (2) the fact that excretion of the causal organism in the milk appears to be to some extent intermittent.

4. The work on control has brought into prominence in one herd a mild but nevertheless serious form of mastitis, which is due to staphylococci and in which the train of symptoms is distinct from those of the streptococcic form. A good deal of work has been done on the problem of distinguishing these

disease-producing staphylococci from similar organisms which are normal inhabitants of the udder.

INVESTIGATIONS INTO THE CULTIVATION OF MALTING BARLEY AT THE NORFOLK AGRICULTURAL STATION.

(*a*) *Methods of Drilling.* These trials have now been carried out for three successive years and are part of the investigation into the evenness of distribution of the plants upon the resulting yield, which arose out of the drill work at Sprowston.

Alternate drill widths were sown with the coulters of the drill set at 3½ inches and 7 inches respectively, but at the same seed rate, so that any difference in yield must be due to the difference in deposition of the seed.

The results for the three years are as follows:—

Yields of Grain in Bushels per acre.

	1927. Grain.	1928. Grain.	1929. Grain.	Mean. Grain.
Close 3½ inch rows . .	45·4	54·8	39·0	46·4
Ordinary 7 inch rows . .	42·4	51·2	36·8	43·5
Increase in Yield due to Close Rows	3·0	3·6	2·2	2·9

The increase in yield due to the closer coulter rows—almost 7 per cent.—has been consistent in each year. Valued at 40*s.* per quarter, the increase in gross value of the crop is nearly 15*s.* per acre.

(*b*) *Manuring of Malting Barley after sheeped Swedes.* The trials after carted roots were reported in Volume 88 of the *Journal.* The object of the present series is to investigate the separate problem of the manuring of barley after sheeping. Though they have not yet reached a stage enabling definite conclusions to be drawn with safety, there are already indications of the general effects of sulphate of ammonia, superphosphate and sulphate of potash. It may be mentioned that the soil at Sprowston is a light loam with brick earth subsoil.

So far potash has displayed the most potent effect on yield and has given satisfactory results even when used alone. Phosphates have given only a small increase and nitrogen would appear to be unnecessary, and sometimes dangerous, owing to the increased tendency of the crop to lodge.

The evidence as to the effect of the manures on quality is not conclusive. Apparently the effects in this direction are seasonal.

It is of interest to note that the clover in the undersown hay mixture is visibly stimulated by the potash residues. This was also a feature of the trials after roots carted off, and was reported in Volume 89 of the *Journal.*

Further work is in progress. The trials are being continued, and these remarks are to be taken merely as an indication of the probable effects.

SUGAR BEET TOPS FOR FATTENING BULLOCKS.

In the report which appeared last year reference was made to a series of experiments to test the value of sugar beet pulp as a cattle food, carried out for the Committee at the Norfolk Agricultural Station. A full report was circulated to members in *Occasional Notes*, June, 1928.

During the past year a trial was carried out at the Norfolk Station to test the value of sugar beet tops as a food for fattening bullocks and their manurial value when ploughed in. A report on this trial was included in *Occasional Notes*, December, 1929, and condensed accounts of both experiments appear on pp. 182 to 194 in this volume.

WOBURN EXPERIMENTAL FARM, 1877–1928.

Sir John Russell has reported that good progress has been made with the work of assembling and checking of data referring to the Woburn Experimental Farm, so long in the possession of, and carried on by, the Society. During the past year a large number of the note books, field books and manuscript records from 1876 onwards, have been examined, the figures transcribed and all calculations fully checked. The samples of soil and of grain taken at various intervals have been collected together and labelled.

PROPOSED CHICKEN-REARING EXPERIMENTS.

The Committee have made arrangements with the South-Eastern Agricultural College, Wye, Kent, to have investigated on an extensive and practicable scale methods of rearing chickens. The basis of the scheme is to be the feeding of separated milk to the growing birds and to compare the results obtained in this way with those resulting from the use of other dairy by-products. The investigation is designed to serve a two-fold purpose: the development of poultry-keeping along lines not as yet fully explored, and to provide an additional outlet for separated milk and other dairy products for which the ordinary, direct market is at present insufficient or unprofitable.

"AGRICULTURAL RESEARCH IN 1928."

The volume, embodying summarized accounts of research work at home and abroad, is gradually establishing itself in confidence in educational, farming and other centres. Publications of this kind have to find their way into favour by degrees, but once known and tested they make their position secure. This appears to be the lot of *Agricultural Research*, published by

John Murray, Albemarle Street, London, W., for the Society. The volume for 1928 was produced under encouraging circumstances, and the demand for the book continues to quicken, and its usefulness to be increasingly appreciated.

MEDAL FOR ESSAY ON AGRICULTURAL RESEARCH.

Six Essays were submitted in 1929, and the Committee have awarded the Society's Silver Medal, together with money or books to the value of £10, to Mr. A. W. Greenhill, of Beechwood, Harrow Lane, Maidenhead, for his work on "The Availability of Phosphatic Fertilisers as shown by an Examination of the Soil Solution and of Plant Growth."

It has been decided to repeat the offer of the Medal under the same conditions as were in force in 1929.

GRASSLAND IMPROVEMENT TRIALS AT SHOBY, MELTON MOWBRAY, LEICESTERSHIRE.

DURING the winter of 1922–3 Sir William Somerville, representing the Research Committee of the Royal Agricultural Society, in conjunction with Sir Arthur Hazlerigg, Bart., and Ald. J. German, inspected the land in the above district, and it was eventually decided that a 53-acre field was suitable for grassland trials.

This field lies at an altitude of about 400 feet above sea-level and the soil is mainly derived from boulder clay, which in turn rests upon the lower lias formation. The herbage was rough, coarse and very tufty, and it was very evident that the field had been very indifferently grazed for many years. Ant banks were very numerous and considerable patches of gorse were to be found, particularly towards the western boundary. On the whole the field presented a very rough and poor appearance.

A seven years' agreement was entered into by the County Agricultural Education Committee with the owner, Mr. F. W. Reckitt, whereby the Committee undertook to rent the land at £1 per acre per annum.

The field was divided by post and wire fences into five enclosures, equal in area, and water was laid on to galvanized iron troughs, each supplied by ball taps.

It was decided that no mechanical or manurial treatment should be carried out for the first year's grazing, the object being to test the uniformity or otherwise of the respective plots. Therefore, in 1923 each plot was grazed by four bullocks and ten sheep, which were weighed every 28 days. The grazing period was of 20 weeks' duration.

The plots are each 10·66 acres in extent. The general progress of the stock during the first grazing season is shown in Table I.

Table I.

CATTLE.

Plot	Total Weight per Plot 31/5/23			Total Weight per Plot 19/10/23			Total Increase in Live Weight in 20 Weeks			Total Gain in Live Weight per Acre		
	cwt.	qrs.	lb.	cwt.	qrs.	lb.	cwt.	qrs.	lb.	cwt.	qrs.	lb.
1	26	3	14	37	1	6	10	1	20	1	0	5
2	26	3	17	37	0	7	10	0	18	1	0	2
3	26	3	21	36	3	21	10	0	0	1	0	0
4	26	2	27	36	0	18	9	1	19	–	3	21
5	26	3	12	37	0	26	10	1	14	1	0	4

SHEEP.

Plot	Total Weight per Plot 31/5/23			Total Weight per Plot 19/10/23			Total Increase in Live Weight in 20 Weeks			Total Gain in Live Weight per Acre		
1	9	1	0	14	2	8	4	0	13	–	1	18
2	9	1	7	14	2	24	4	0	22	–	1	19
3	9	1	4	14	3	16	4	1	9	–	1	20
4	9	2	7	15	1	8	4	2	10	–	1	23
5	9	1	2	15	0	26	4	2	7	–	1	24

In the above table it will be noted that the total live weight increases of both cattle and sheep during the 20 weeks grazing period were very similar, showing to some extent the general uniformity of the plots so far as grazing quality was concerned.

During the winter of 1923–4 it was decided to carry out a series of experiments upon surface cultivation. The herbage was very rough, coarse and tufty, but there was no indication of a mat. Various implements were tried, including chain, drag and disc harrows, Rejuvenator and Parmiter harrows—all of these methods, except the chain harrows, did a certain amount of good as was shown by a much fresher appearance of the young herbage during the following spring.

The Parmiter harrows were, however, finally used upon the remainder of each plot. They were very effective and tore out very efficiently all tufty and decomposing vegetable material, including moss, and, in addition, scarified the surface, letting in the air and fertilisers which were applied after the harrowing was completed. The amount of material torn out by the Parmiter harrows was extraordinary and it had to be run together with a horse-rake and carted off. After this very effective harrowing the plots looked much fresher and there can be no doubt this simple surface cultivation was responsible for a considerable proportion of the improvement in the quality of the pasture. It is worthy of note that even the 'No manure' plot has shown considerable improvement throughout the period of the experiment.

The following scheme of manuring was discussed with Sir William Somerville and approved by the Research Committee of the Royal Agricultural Society at their meeting held in November, 1923. The soil was sampled and a botanical analysis of the herbage was carried out in the autumn of 1923.

The manures were applied in December and early January, 1923–4, and further manurial treatment was given in 1926–7.

PARTICULARS OF MANURIAL TREATMENT.

Winter 1923–4 *and Winter* 1926–7. *Area of each plot* 10·66 *acres.*

Plot 1.—Received 6½ cwt. of Basic Slag per acre during the winter 1923–4, supplying 100 lb. of Phosphoric Acid per acre, *and a further dressing of* 6½ *cwt. per acre of Slag supplying* 100 *lb. of Phosphoric Acid per acre during the winter* 1926–7.

This plot has now received 200 lb. of Phosphoric Acid per acre, in order to compare with Plot 4, which received the same amount in one dressing during the winter of 1923–4.

Plot 2.—Received 6½ cwt. of Basic Slag per acre, supplying 100 lb. of Phosphoric Acid per acre. The Cattle and Sheep grazing this plot received an allowance of Undecorticated

TABLE II.

SUMMARY OF LIVE WEIGHT INCREASES PER ACRE.

CATTLE AND SHEEP.

Complete details of manurial treatment and cake fed to stock.

	Plot 1. Slag applied in two Dressings		Plot 2. Slag and Cake. Cake discontinued in 1928		Plot 3. No Manure		Plot 4. Slag applied in one Large Dressing		Plot 5. North African Phosphate	
	Cattle	Sheep	Cattle	Sheep	Cattle	Sheep	Cattle	Sheep	Cattle	Sheep
	lb.	lb.	lb.	lb.	lb.	lb.	lb.	lb.	lb.	lb.
1924	22	43½	236	42½	156	40	201	47	193	38
1925	199	71½	220	62	167	66	208	79	168	70½
1926	268	67	275	67	228	56	274	73	233	63
1927	262	59	255	60	183	46	257	55	204	54
1928	196	50	174	48	138	44	193	49	172	46
1929	139	62	113	64	93	62	113	71	114	72
	1,290	353	1,273	343½	965	314	1,246	374	1,084	343½

Bombay Cotton Cake daily during the grazing seasons 1924–5–6–7. The allowance of cake was discontinued in 1928.

Plot 3.—No manurial treatment.

Plot 4.—Received 13 cwt. of Basic Slag per acre, supplying 200 lb. Phosphoric Acid per acre, applied during the winter 1923–4.

Plot 5.—Received 6¾ cwt. of Mineral Phosphate per acre, supplying 200 lb. of Phosphoric Acid per acre. Fineness of grinding—85 per cent. through 10,000-mesh sieve.

TABLE III.

GRAZING RESULTS OBTAINED AT SHOBY, LEICESTERSHIRE, IN SIX YEARS.

The Figures in all cases refer to an Acre.

Plot	Treatment per Acre	Cost of Treatment	Gross Live Weight Increase. Cattle and Sheep	Excess Live Weight Gains over those obtained on Plot 3 No Manure	Values of Live Weight Increase at 4*d.* per lb. C., 4½*d.* per lb. S.	Nett Gain + or Loss − in 6 Years	Nett Gain + or Loss − per Acre per Annum
		£ *s.* *d.*	lb.	lb.	£ *s.* *d.*	£ *s.* *d.*	£ *s.* *d.*
1	6½ cwt. Slag, 1923. 6½ cwt. Slag, 1926 . . .	1 12 6	1 643	364	6 3 0	+4 10 6	+15 1
2	6½ cwt. Slag, 1923. Cake fed to Cattle and Sheep, 1924–5–6–7 . .	16 3 4 18 5 5 14 8	1,616½	337½	5 13 9	−0 0 11	− 0 2
3	No Manure . .	—	1,279	—	—	—	—
4	13 cwt. Basic Slag, supplying 200 lb. P_2O_5 per Acre applied 1923 . . .	1 12 6	1,620	341	5 16 2	+4 3 8	+13 11
5	6¾ cwt. of North African Phosphate supplying 200 lb. P_2O_5 per Acre applied in 1923	1 2 10	1,427½	148½	2 10 9	+1 7 11	+ 4 11

North African Phosphate—fineness of grinding 85 per cent. through a 10,000-mesh sieve.

C. = Cattle. S. = Sheep. + = plus. − = minus.

The value of the Live Weight Increase on Plot 3 was:

Cattle	£16 1 8
Sheep	5 17 9
Total	£21 19 5 or £3 13*s.* 3*d.* per acre per annum.

The Slag contained 30 per cent. of total Phosphates with the usual guarantee as to fineness of grinding, and cost 49*s*. 6*d*. per ton, delivered at Grimston, which is equal to 1*s*. 7¾*d*. per unit of Phosphate.

The Mineral Phosphate is ground North African Phosphate, containing about 60 per cent. of total Phosphates, and cost £3 7*s*. 9*d*. per ton, delivered at Grimston, which is equal to 1*s*. 2*d*. per unit of Phosphate.

The cattle have been very similar each year and were home-bred Shorthorn steers ranging from eighteen to thirty months old, and in point of quality have been very representative of the ordinary type of Shorthorn common in the district. The sheep have been mainly cross-breds and the quality has been very uniform throughout the experiment.

GENERAL CONCLUSIONS.

Plot 1.—The result of two applications of 6½ cwt. of Basic Slag per acre with an interval of three years between the applications has proved to be satisfactory, and has further shown that the best phosphatic dressing for land of this character is Basic Slag. These dressings of Basic Slag applied to Plot 1 as above have resulted in an average annual gain of 15*s*. 1*d*. per acre.

Plot 2.—The treatment of this plot included one dressing of 6½ cwt. of Basic Slag applied in 1924, and nothing since, beyond the residues obtained from the feeding of about 2 tons of Bombay Cotton Cake per year for the grazing seasons of 1924–5–6–7. This method of treatment has resulted in a slight average annual loss.

The value of the residues from the cake fed does not appear to be very considerable, though the Live Weight increase figures seem to show that they do exert an influence upon the pasture as judged by the live weights recorded by the stock grazing the plot after the cake has been discontinued.

Plot 3.—This plot did not receive any fertilisers at all, but it is generally conceded that this plot has been improved very considerably by surface cultivation alone. All plots were treated alike in this respect.

Plot 4.—This plot received one large dressing of 13 cwt. per acre of Basic Slag, and the results can be compared with Plot 1 where the Basic Slag of the same weight as above was applied in two dressings of 6½ cwt. each, with an interval of three years between them. This large dressing of slag has usually at many experimental centres given the best result, but at Shoby the two dressings were more effective. The annual average gain on this plot amounted to 13*s*. 11*d*. per acre.

Plot 5.—This plot was treated with North African Phosphate, the fineness of which amounted to 85 per cent. through a 10,000-mesh sieve. The amount applied was 6¾ cwt. per acre, and supplied 200 lb. of Phosphoric Acid per acre. This plot should be compared with Plots 1 and 4, where the same amount of Phosphoric Acid, viz. 200 lb., per acre was applied under the conditions specified in the general scheme of manuring. This treatment resulted in an average annual gain of 4*s.* 11*d.* per acre.

For this type and condition of herbage—especially when the experiment began—the regular harrowing with Parmiter harrows has proved to be more effective than any of the other forms of surface cultivations tried at Shoby.

These trials have amply demonstrated that grassland improvement comprises something more than the application of fertilisers.

Surface cultivation is imperative in a large number of cases, and where thoroughly carried out prepares the way for the full and effective use of fertilisers ; surface cultivations and fertilisation must go together. The following implements have been fully tried—chain harrows, Parmiter harrows, drag and disc harrows, in conjunction with a new implement known as the " Rejuvenator." Each implement has its own advantages as well as disadvantages, but the Parmiter harrows proved to be the best for the conditions at Shoby.

It was thought desirable at the conclusion of these experiments to obtain the opinion of a leading Leicestershire grazier, and Mr. Robert McLean was invited to inspect the plots at the conclusion of the 1929 grazing season. Mr. McLean has been good enough to write as follows :—

" I have visited Shoby and viewed the plots of grassland that have been experimented upon by the Leicestershire County Council and the Royal Agricultural Society of England, and after very careful scrutiny I have arrived at the following conclusions :—

(1) That all the land, whether manured or not, has very materially improved, owing no doubt to *good grazing and surface cultivation.*

(2) That the land had not responded to manurial treatment as much as one might have expected.

(3) That probably this is owing to the fact that the land had not been properly grazed for years prior to the application of the manures and consequently they could not do their work as they should have done.

(4) That the experiments amply prove the superiority of Basic Slag as compared to North African Phosphate.

(5) That Plot 1 is in the highest state of fertility and looks much the best.

(6) That the plot where cake was used is most disappointing.

(7) That North African Phosphate is not worth putting on, this plot looking little or no better than " No Manure " plot.

(8) That the experiments proved beyond all doubt the beneficial results of Basic Slag.

(9) That being so, and that they have also proved the worthlessness of North African Phosphate in Leicestershire, the experiments have amply justified themselves.

(10) That as a result, every grazier ought to benefit, who desires to improve his holding, for these experiments are a valuable object lesson.

(11) That, therefore, any money that has been spent on these experiments has been well spent.

(12) That if farmers do not benefit thereby, it is their own fault.

(13) That a series of other experiments ought to be carried out to test the relative merits of Lime, Potash, Steam Bone Flour, and combinations of Potash, Phosphates and Nitrogen.

(14) That this should receive the wholehearted support of the County Council and indeed the whole of the agricultural community."

THOS. HACKING.

Agricultural Organiser,
Leicestershire County Council,
Leicester.
January, 1930.

BULLOCK FEEDING ON SUGAR BEET TOPS AND PULP.

A SUMMARY OF THREE YEARS' TRIALS.

THE experiments which are described in the following pages were part of a series which has been carried out on the Farm of the Norfolk Agricultural Station with the aid of grants from the Research Committee of the Society.

In the text of the report it is observed that the conclusions drawn from the manurial trial and the comparison between the food and the manurial values of sugar beet tops are based upon the work of one season only. The season in question, moreover, was one of exceptionally low rainfall: consequently the findings must be accepted with due regard to these circumstances.

The manurial trial is being repeated, but, in view of the general demand for information and the comparative lack of knowledge concerning the sugar beet crop, it is felt that the results will provide some guidance and should be available to growers without further delay.

The opinion is widely held amongst growers of sugar beet that the continuance of the crop on all but the most favourably situated farms depends very largely upon the stock-feeding value of the tops and pulp. The latter has been tried experimentally and commercially and has proved its worth. The tops also have been fed successfully to sheep and cows, but they have not gained much favour amongst bullock feeders, who claim that the rate of fattening has not been commensurate with the labour of collecting and carting in. The question is of particular importance in the county of Norfolk, since winter beef is one of the chief products and sugar beet occupies, at the moment, a far larger acreage than in any other county. In many of the best sugar beet growing districts, moreover, the land does not lend itself to the winter folding of sheep, and bullocks, with pigs and the horses, are the only livestock carried. Since sugar beet, in most cases, replace other roots in the rotation, the utilisation of the tops becomes an important factor in determining the stock-carrying capacity of the farms. Any reduction in the number of cattle wintered in the yards increases the difficulty of converting the straw into manure, a matter of extreme importance on these arable holdings. When sugar beet take the place of ordinary stock-feeding roots some substitute is, therefore, necessary in their place as a constituent of the fattening ration and, indirectly, as a factor in the maintenance of fertility.

Owing to the low prices which have ruled for fat cattle for a number of seasons, the root shift has been one of the most unprofitable. Hence, if sugar beet tops and pulp can be fed successfully in place of swedes, or even mangolds, the proportion of the land allocated to these may be reduced still further in favour of sugar beet, a crop which may reasonably be expected to bring in a cash profit, and the position of the fat bullock in the general economy of the farm may be appreciably improved.

The use of dried sugar beet pulp and tops for fattening bullocks has been the subject of trials at this station for the past three years. The general method of trial has been to feed groups of ten to twelve bullocks on a common basal ration, consisting of hay, straw and concentrates, and to add to this an allowance of dried pulp, tops or roots as the case may be. Periodical weighings have been made to check the progress of the animals, which have been sold by dead weight to a Norwich butcher. Through the kindness of the latter it has been possible to examine every carcass and to obtain the butcher's opinion upon them. At the time of writing this report (February,

1930) the 1929–30 animals are still in the yards. They are no longer receiving sugar beet tops, which were finished by mid-January, but the live weights for the period of top feeding are available.

North-country Shorthorns have been purchased every year for the trials, the average age being about twenty months when they were put into the yards in early October. All animals were weighed and the selection of the trial groups was made so as to make them as strictly comparable as possible. They were housed in open yards, roofed along one side. Concentrates were fed with chaffed hay in mangers under this cover, while the roots, soaked pulp or tops were given alone in bins in the open. All three yards were supplied with water. The yards were littered daily with barley straw from which the animals picked what they liked.

RATIONS.

The details of the foods used may be of interest.

The amounts were calculated to produce equal rates of live weight increase. Sufficient water was used to swell and soften the pulp to a crumbly consistency, in which condition the animals ate it readily. The habit of the animals of picking over the tops and dropping many of the leaves into the litter caused considerable waste of food material. A further loss was occasioned, particularly in the frosty winter of 1928–29, by the large proportion of damaged tops which were refused by the animals and left in the bins to be cleared out by the bullock tender. The condition in which the tops are offered is obviously of importance if the maximum amount of food is to be obtained. In the 1928 trial no special precautions were taken to avoid trampling on and carting over the tops in the field: consequently they were heavily contaminated with soil, and out of the twenty-five bushels placed in the bins every day something like four bushels of discarded, damaged tops and earth had to be removed by the attendant.

In the following year the tops were thrown into rows in the field so as to leave avenues for carts and horses. This extra care, combined perhaps with rather better weather conditions, resulted in a reduction of the "leavings" from four bushels to one bushel. The daily consumption in the first year was estimated at 63 lb. per head, and in the second year at 85 lb. per head. In both years the animals evinced a marked preference for the crowns as distinct from the leaves, which they appeared to discard to a considerable extent.

The addition of ground chalk, at the rate of ½ oz. per bushel of tops, was found to be necessary to control the scouring action of the tops. In 1928 this was not done for the first fortnight, and it is probable that the over-laxative condition of the lot on tops was partly responsible for their slow start. Had chalk been fed from the beginning it is possible that this check would have been avoided and that the animals would have taken to the tops more quickly, as they did in the following year. The inference would seem to be that some form of chalk or lime should always be given with sugar beet tops even to fattening bullocks.

In 1927 the trial did not include tops, the comparisons being made between equivalent amounts of pulp, roots and a half-and-half mixture of pulp and roots.

The first two yards provided a direct comparison between the pulp and the roots. The object of the third yard was to serve as a check upon the first two should any marked difference appear between them, and to try whether the combination of the two foods showed any advantage over either separately.

The basal rations fed to all yards in addition to the pulp and roots in 1927 were:

	PER HEAD, PER DAY.
Hay, long	3½ lb.
„ chaffed	3½ „
Barley meal, home-grown	1 lb. rising to 2 lb.
Maize meal	1 „ „ „ 3 lb.
Dec. cotton seed meal	1¾ lb.

Half the hay was given long in the bins at night and half was chaffed and fed under cover in mangers with the concentrates.

The quantities of pulp and roots were as follows:

Yard	I.	Dried sugar beet pulp	12¾ lb. per head per day.
„	II.	Swedes (or mangels)	103 „ „ „
„	III.	Swedes (or mangels)	51½ „ „ „
		Dried sugar beet pulp	6⅜ „ „ „

In the next two seasons sugar beet tops were introduced instead of the pulp and roots mixture. In 1928 the average ration per head for the trial period was:

Dried pulp	12·2 lb.
Swedes	107 „
Tops	63 „

The weight of material actually carried into the tops yard was 75 lb. per head. As has already been mentioned, however, there was considerable wastage, owing to weather injury and soil contamination. Allowing for the leavings in the bins, which had to be removed by the attendant, the consumption was approximately 63 lb. per head.

The basal ration in this year, 1928, consisted of:

Chaffed hay	3½ lb.
Manioc meal (tapioca)	2 „
Maize gluten feed	2 „
Dec. ground nut cake	1 „

2 lb. of rolled barley was added later.

The tops were fed from October 12 until December 18, when hard frost made it necessary to discontinue their use. Shortly after this date all three groups were put on to the dried pulp, upon which they reached butcher's weights in good time.

For reasons of practical convenience on the farm, one bag of pulp (1 cwt.) was fed to the ten bullocks per day during the earlier stages. It was increased later to 14 lb. per head.

In 1929 the extreme scarcity of hay in the Eastern Counties dictated a policy of hay conservation which precluded its use for bullock feeding. The basal ration in this year consisted of:

Chaffed barley straw	2 lb.	
Rolled barley	2 „	rising to 3 lb.
Rolled wheat	1 „	„ „ 2 „
Dec. ground nut cake	1½ „	

The additional foods were:

Dried pulp	13 lb.
Swedes	95 „
Tops	85 „

The mean weights of swedes and tops as fed were obtained by weighing at intervals a number of the wicker skeps, nominally one bushel. Since many of the skeps were replaced each year differences in size were likely to occur and so alter their capacity. The weight of tops in a bushel can also be varied with the manner of filling. In terms of bushels the swedes have always been given at the rate of two bushels and the tops at the rate of two and a half bushels per day.

The concentrate mixtures used in these trials would appear to many bullock feeders to be very low in "cake," and it may therefore be of general interest to note that in all the trials conducted at the station during the last five years the standard allowance of 1½ to 1¾ lb. of digestible protein per head per day has been found to meet the animals' requirements. This can nearly always be provided by the inclusion of no more than 2 lb. of one of the oil cakes. It has even been found economical to use a meat meal in combination with home-grown cereals, when as little as ½ lb. of the meat meal in conjunction with 3 to 4 lb. of cereals has produced entirely satisfactory results. When wheat or barley are unsaleable, bullocks can be fattened quickly upon such a mixture with the minimum expenditure upon purchased foods.

LIVE WEIGHT GAINS.

The table given below shows the mean daily live weight gains obtained on the various foods in each of the three years. It will be observed that the general level of the rate of increase in 1929 was rather lower than in previous years. Many feeders expressed the opinion that their cattle were "doing" more slowly than usual, possibly as a result of the mild weather experienced that year.

Whatever may be the explanation the incident serves to show the danger of making comparison between results which were not obtained under comparable conditions, a mistake which is made only too frequently. Had sugar beet tops been fed to all the cattle on the farm in 1929, with a result similar to that shown here, and then a comparison made with the previous year's root feeding, an entirely misleading view of the relative usefulness of the two foods might be obtained.

TABLE I.

LIVE WEIGHT GAINS.

Mean Gains per day in each Year.

	Pulp Group. lb.	Roots Group. lb.	Pulp and Roots Group. lb.	Tops Group. lb.
1927	2·6	2·5	2·3	—
1928	2·0	2·5	—	1·9
1929	2·0	1·6	—	1·6

The basal ration, which was common to all yards, was calculated to satisfy the maintenance requirements of the animals so that the rates of live-weight increase should have been proportionate to the feeding value of the additional food in the form of swedes, tops or pulp. Any differences in live weight should therefore be attributable to these three foods.

At first glance the figures suggest that the lowest gains were made on the tops, but the differences between the various groups in any one year are not statistically significant: the differences between the means are too small and the variations amongst the individual animals too great to allow the conclusion to be drawn with any certainty that one of the foods, in the proportion used, has given better results than another. It would therefore be unsafe to attempt any close comparison of the feeding value of the foods in question upon these figures. The only exception is the Roots Group in 1928, when the larger recorded live weight gain up to the date in which sugar beet tops were finished, December 18, may be attributed to the different feeding. It may be remarked that the year in question was generally regarded by farmers as a good "root year" with regard to the feeding quality of the roots.

The general indication of the three years' trials is that the three foods, dried sugar beet pulp, swedes and sugar beet tops, are equally efficient in the fattening of bullocks when fed in equivalent amounts. The results in different years suggest that these amounts will vary somewhat according to circumstances ; in the three years of the trial the equivalent quantities were :

In 1927 . . 1 ton pulp = 8 tons swedes (no tops fed).
„ 1928 . . 1 ton pulp = 6 tons swedes or 5 tons tops.
„ 1929 . . 1 ton pulp = 7½ tons swedes or 6½ tons tops.

Although the above figures represent the findings of these trials it must be emphasised that they are to be regarded as fair approximations and not as absolute measurements. The trials have been conducted throughout with a view to maintaining representative farming conditions, since it was felt that they would thus serve their dual purpose of trial and demonstration better, even at the sacrifice of some precision, than they would if their practical aspect were lost in an attempt to obtain extreme accuracy of measurement.

OBSERVATIONS ON CARCASSES.

1927 was the only year of the trial in which the comparison between the pulp and roots could be carried right through to the carcasses. In 1928 all the animals were finished on pulp, the roots being frozen, and at the time of writing the 1929 animals have not yet reached the butcher.

In 1927 the opinion was expressed by several visitors that the pulp-fed bullocks would not kill out as well as those on roots. It is difficult to find any reason for this supposition, since sugar beet pulp is, after all, only a species of dried mangel from which the large sugar content has been extracted in water and the residue dried. The carcass weights obtained in this trial do not support the contention. From about the tenth week onwards visitors unhesitatingly placed the pulp-fed animals first on the score of appearance and the butcher confirmed the general opinion when he came to see them early in February —during the fourteenth week. The coats of the pulp animals looked better and on the whole they gave the impression of being more forward in condition until the last two or three weeks of fattening. During the final stages all three yards levelled up, and some differences of opinion were expressed as to which group looked the best.

TABLE II.

MEAN LIVE AND DEAD WEIGHTS (1927)

Yard No.	Live Weight		Increase		Dead Weight		Offal Fat	
	Beginning	End	Total	Per day	Total	Percentage of L.W.	Total	Percentage of D.W.
	cwt. qr. lb.	cwt. qr. lb.	cwt. qr. lb.	lb.	[1]st. lb.		lb.	
I. Pulp . . .	7 2 24	10 2 5	2 3 9	2.46	46·1	54·6	40½	6·28
II. Roots. . .	7 1 23	10 1 3	2 3 8	2·45	45·1	54·8	36½	5·78
III. {½ Roots ½ Pulp} .	7 2 7	10 0 18	2 2 11	2·26	44·6	54·7	37⅓	6·03

[1] Stones of 14 lb.

The percentage dead weights show that the condition of all three yards was very even at the time of killing, and critical examination of every one of the carcasses failed to trace any connection between feeding and quality of meat. In some cases the fat of the pulp-fed carcasses appeared to be a shade whiter than those which had had mangels, but the difference was extremely slight and of no commercial importance. The butcher could not distinguish between the carcasses from the various yards and expressed his satisfaction by saying that they were the best animals he had bought that year. There need be no fear of spoiling the quality of beef by the use of sugar beet pulp.

COST OF FEEDING.

Although quality of meat and the ratio of dead to live weight are a concern of the farmer in that they exert an influence on his market price, a matter of more immediate importance is the cost of producing the finished beast. The figures given below show the actual purchase price of all foods bought outside the farm in 1927 and an estimate of the value of home-grown barley and hay.

TABLE III.

COST OF FOOD PER HEAD (1927).

Pulp Lot (8 *Bullocks*).

		£ s. d.				£ s. d.
Hay	@	3 0 0	per ton,	517½ stones	=	9 14 1
Barley	@	9 0 0	,,	1,430 lb.	=	5 14 11
Maize meal	@	9 5 0	,,	2,449 ,,	=	9 11 3
Cotton seed meal	@	11 17 6	,,	1,256 ,,	=	6 13 10
Linseed cake	@	12 15 0	,,	654 ,,	=	3 16 0
Dried sugar beet pulp	@	5 0 0	,,	13,196 ,,	=	29 9 1
Cost of Food (Purchase Price) for 8 bullocks					=	64 19 2
,, ,, ,, ,, ,, 1 bullock					=	8 2 5

The eight root-fed animals consumed precisely the same quantities of hay and concentrates together with 47 tons 12 cwt. of swedes and mangels. The food value of this weight of roots, in comparison with dried sugar beet pulp at £5 per ton, is therefore £29 9*s.* 1*d.*, less the difference in cost of handling. Cost of carting from the "hale" or clamp has not been measured. The time taken to prepare and feed the pulp was 22 minutes per day, the grinding and carrying of the roots took 83 minutes per day. The cost of this labour is shown in Table IV.

TABLE IV.

LABOUR OF PREPARING AND FEEDING.

	Minutes per day.	Cost per day.	Total cost.	Cost per ton.
Pulp . . .	22	3 pence	£1 12 3	5*s.* 6*d.*
Roots . . .	83	11 pence	£5 18 3	2*s.* 6*d.*

(Bullock tender's wage rate works out at 8*d.* per hour.)

Since the pulp and roots in the quantities fed produced the same live weight increase, and since the cost price of the pulp is known, it is a simple matter to calculate the cost at which roots must be placed in the bins to equal the pulp in value. The total cost of the pulp and labour in feeding it was £29 9*s.* 1*d.*, plus £1 12*s.* 3*d.* = £31 1*s.* 4*d.*; hence the value—not the cost—of the roots consumed must be equal to the cost of the pulp. The 47½ tons of roots consumed had therefore a value in the bins of £31 1*s.* 4*d.* or 13*s.* per ton.

On this basis the relative values of pulp and roots at various prices for pulp would be:

If Pulp cost £3 per ton, Roots in the bins would be worth 7*s.* 10*d.* per ton.
" " £4 " " " " " " 10*s.* 5*d.* "
" " £5 " " " " " " 13*s.* 0*d.* "
" " £6 " " " " " " 15*s.* 8*d.* "

These figures are of particular interest in view of the average cost of growing roots in the Eastern Counties, which is shown by the Farm Economics Branch at Cambridge[1] to have been over 18*s.* per ton at Michaelmas in 1926, lifting and carting being additional to this. Even allowing for the very wide variations from the average figure which occur from place to place and from year to year, as shown in these trials, it is obvious that heavy root feeding has often been an extravagant method of producing winter beef.

MANURIAL VALUE OF THE TOPS.

A measure of the manurial value of the tops was obtained from the succeeding crop of barley. When the sugar beet were lifted six strips of half an acre each were marked out across the field and from every alternate strip the tops were carted to the bullock yards. On the intervening strips the tops were left on the ground and so turned in when the field was ploughed.

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[1] Report No. 6, May, 1927, Venn and Gianetti.

The sugar beet had received 8 tons of farmyard manure, 2 cwt. of 30 per cent. potash salts and 3 cwt. of sulphate of ammonia to the acre, following which the barley was given no further manure. The whole field was drilled and two series of plots, each 1/30th acre, were measured off on the trial strips, the junctions of "ploughed in" and "carted off" areas being avoided. The produce of these plots was harvested and threshed separately, when the following weights of grain and straw were recorded.

TABLE V.

WEIGHT (LB.) OF BARLEY GRAIN AND STRAW PER PLOT OF 1/30TH ACRE.

	Series A		Series B	
	Off	On	Off	On
Grain	69	88½	69	84
Straw	53	76	55	66
Grain	69	92	67	78
Straw	51	79	53	62
Grain	74½	85	65	78
Straw	60	70	52	64

"Off" signifies "tops carted off."
"On" signifies "tops ploughed in."

The means of the two treatments are:

Tops ploughed in	84 ± 1·32
Tops carted off	69 ± 0·78
Difference =	15 ± 1·5

The means of the plots, in cwt., per acre, are:

	Grain.	Straw.
Tops ploughed in	22·6	18·6
Tops carted off	18·5	14·5
Difference	4·1	4·1

The increase in the yield of barley as a result of ploughing in the tops, therefore, was just over 22 per cent., or one quarter (2 coombs) to the acre. Very little difference, if any, could be detected in the quality of the grain obtained from the two treatments and the monetary value of the increase would depend upon the vagaries of the market and other circumstances which are outside the scope of this inquiry.

Some guidance, however, may be found in a comparison between the above figures and the increases which have been obtained by the use of artificial manures on the same farm during five years of barley manurial trials. The soil is a gravelly loam overlying brick earth at a depth of two or three feet. The manurial ingredients of the artificials employed and of the sugar beet tops were:

	Artificials.	Sugar Beet Tops.[1]
Nitrogen. . .	23 lb. per acre.	53 lb. per acre.
Phosphate (P_2O_5) .	54 ,, ,,	17 ,, ,,
Potash (K_2O) . .	54 ,, ,,	91 ,, ,,

The artificials were applied at the rate of 1 cwt. sulphate of ammonia, 3 cwt. superphosphate and 1 cwt. sulphate of potash. The tops have been estimated at 7 tons to the acre.

There is no evidence as to the proportion of the nitrogen which may have been lost during the winter, but experience of many barley crops following ploughed-in sugar beet tops leads to the belief that the loss is heavy in a winter of average rainfall, since the proportion of laid crops has been small.

The amount of phosphate in the tops was less than was contained in the 3 cwt. of superphosphate used in the manurial trials [2] quoted above, and it may be remarked that the increase of barley following the ploughed-in tops was very similar to that obtained by the use of sulphate of ammonia without superphosphate. When the preceding crop of swedes has been carted off 1 cwt. of sulphate of ammonia applied to the barley has consistently raised the yield by approximately 20 per cent., but there appears to be a risk of lowering the quality of the grain by its use unless combined with phosphate and potash. The addition of 3 cwt. of superphosphate has further increased the yield up to 33 per cent., whilst the complete mixture of sulphate of ammonia, sulphate of potash and superphosphate has produced an average increase of 36 per cent. Potash, while producing little effect on the yield, has shown a tendency to improve the quality of the barley and has stimulated the following clover to a remarkable degree.[3] These figures suggest that additional phosphate might be given with advantage to barley following ploughed-in sugar beet tops. They are comparable with the increase obtained this year (1929) as a result of ploughing in the sugar beet tops.

The cost of the artificial manures in 1929 was:

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[1] From analyses of Woodman and Bee, *Journal of Agricultural Science*, October, 1927.

[2] Rayns, *Journal R.A.S.E.*, 1927. [3] Fail, *Journal R.A.S.E.*, 1928.

	s.	*d.*	
Sulphate of ammonia	11	0	per acre.
Sulphate of ammonia and superphosphate . .	21	6	„
Sulphate of ammonia, superphosphate and sulphate of potash	33	6	„

It would appear then that as much barley can be grown by an expenditure of something less than £1 per acre on artificials as by ploughing in the tops. It remains to be seen, however, whether the potash in the beet tops will be as effective in stimulating the succeeding clover crop as it has been in the sulphate of potash. If it should prove to be so, the manurial equivalent of the tops in the form of artificials would cost certainly no more than 30*s*. per acre.

It will be remarked that no account has been taken of the humus-forming properties of the beet tops, but at present there is no direct evidence as to the extent of this. It is, however, a point of considerable importance and requires further investigation. The duration of any residual effects will be kept under observation throughout the rotation.

SUMMARY.

The winter of 1928 was characterised by unusual frost. Feeds which are liable to exposure to the weather were therefore at a disadvantage, and the compulsory cessation of top feeding at an early date, December 18, and of root feeding a few weeks later, must be counted as a point in favour of the dried pulp. At the same time the perishable nature of the tops and the damage which they suffered both from the severe weather and from the manner of handling in the field in this year may have lowered their value below its average level.

In 1929 the use of ground chalk in the ration appeared to have prevented the recurrence of the scouring which was a troublesome feature of the first week or two in the 1928 trial. The animals eating tops of the 1929 season always looked well and their live weights confirmed their appearance of thriftiness. Lime in one of the forms in which it is placed on the market for feeding purposes should always be included in the diet of bullocks when sugar beet tops are being fed.

Sugar beet tops and dried sugar beet pulp have been found to be thoroughly satisfactory substitutes for swedes. The approximate equivalent quantities have been indicated. While the tops undoubtedly possess considerable manurial value when ploughed down, it is quite obviously wasteful to do so since their manurial equivalent can be purchased very much more cheaply than their food equivalent. The waste of food material when sugar beet tops are much trampled upon in the field may be considerable. It is recommended that they should be thrown into rows or heaps to avoid carting over them as far as possible.

In concluding this report, the writer wishes to record his indebtedness to M. Harvey, Manager of the Norfolk Agricultural Station's Farm, for his help throughout the trials; to H. Fail, B.Sc., Supervisor of Field Trials, for planning and carrying through the whole of the manurial trial and preparing all the data in connection therewith; to Mr. F. W. Algar for providing every facility for examining the carcasses and for his valuable expert criticism of the bullocks, alive and dead; and finally to F. Rayns, M.A., Director of the Norfolk Agricultural Station, for constant interest and advice throughout these trials.

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CONTEMPORARY AGRICULTURAL LAW.

I.—LEGISLATION.

IT is not necessary to notice many Acts of Parliament passed in 1929 as especially affecting agricultural interests.

The Local Government Act, 1929 (19 Geo. 5, c. 17), is one of the longest and most important of recent Acts of Parliament, effecting as it does great changes in the system of local government of this country; but for the most part agriculture is only affected by it indirectly and in common with other local interests. Generally speaking, the result of it is to centralise in County Councils most of the local administrative work hitherto carried out by district boards and councils. Thus by Part I of the Act the functions of Poor Law authorities are transferred to the Councils of counties and county boroughs. Similarly, by Part II the functions of Boards of Guardians in respect of the registration of births, deaths and marriages are transferred to those Councils. By Part III the Council of every county is constituted the highway authority as respects every main road in the county, and by Section 30 every County Council becomes the highway authority as respects such part of the county as is comprised in any rural district with power by Section 35 to delegate the functions of the County Council with respect to the maintenance, repair and improvement of certain roads to District Councils. Part IV provides for the re-arrangement of county districts. Part V deals with rating and valuation, and effects the derating of agricultural land and agricultural buildings. Section 67 enacts that after the appointed day (*i.e.* October 1, 1929) no person is to be liable to pay rates in respect of any agricultural land or agricultural buildings, and that for the purposes of valuation lists in force at the appointed day agricultural land and agricultural buildings shall be deemed to have no rateable value. The definition of "agricultural land" for the purposes of this enactment is to be found in Section 2 of the Rating and Valuation (Apportionment) Act, 1928, and means "any land used as arable meadow or pasture ground only, land used for a plantation or a wood or for the growth of saleable underwood, land exceeding one quarter of an acre used for the purpose of poultry farming, cottage gardens exceeding one quarter of an acre, market gardens, nursery grounds, orchards or allotments, including allotment gardens within the meaning of the Allotments Act, 1922, but does not include land occupied together with a house as a park, gardens (other than as aforesaid), pleasure grounds, or land kept or preserved mainly or exclusively for purpose of sport or recreation, or land used as a racecourse; and for the purpose of this definition the expression 'cottage garden' means a garden attached to a house occupied as a dwelling by a person of the labouring classes." And "agricultural buildings" means "buildings (other than dwelling-houses) occupied together with agricultural land or being or forming part of a market garden, and in either case used solely in connection with agricultural operations thereon." Section 68 relieves industrial and freight-transport hereditaments from three-quarters of the rates. Section 72 with regard to the rating of farm-houses is important. It enacts that the gross value of a house occupied in connection with agricultural land and used as the dwelling-house of a person who (*a*) is primarily engaged in carrying on or directing agricultural operations on that land; or (*b*) is employed in agricultural operations on that land in the service of the occupier thereof and is entitled, whether as tenant or otherwise, so to use the house only while so employed, shall so long as the house is so occupied and used, be estimated by reference to the rent at which the house might reasonably be expected to let from year to year if it could not be occupied and used otherwise than as aforesaid. The result of this section is therefore that farm-houses will be assessed on their value in connection with the farm, and not on what might be the value if let for private residential purposes. Drainage rates do not come under the term "rates" in the foregoing enactment, which only relates to rates applicable to local purposes of a public nature, and Section 78 provides that for the purpose of drainage rates the value for rating purposes of any property is to be ascertained by reference to the gross value for income tax purposes.

The Agricultural Rates Act, 1929 (19 & 20 Geo. 5, c. 26), advances the benefit of derating of agricultural land and buildings to April 1, 1929, and provides for repayment of any sums which after that date may have been already paid by the occupier of any agricultural hereditament in respect of the current half-year beginning on April 1 and ending on September 30, 1929.

The Artificial Cream Act, 1929 (19 and 20 Geo. 5, c. 32), enacts that no person shall sell or offer or expose for sale for human consumption under a description or designation including the word "cream" any substance purporting to be cream or artificial cream unless (*a*) the substance is cream as defined in the Act, or (*b*) when the substance is artificial cream as defined in the Act the word cream is immediately preceded by the word "artificial." Section 2 provides for the registration of premises where artificial cream is manufactured or sold, but this enactment is not to apply to the manufacture of artificial cream by any person solely for his domestic purposes. By Section 5 offences against the Act are punishable on summary conviction by a fine not exceeding £5 for the first offence and not exceeding in the case of a second or subsequent offence £50, and in any case where the offence is a continuing offence to a further fine not exceeding 40*s*. for each day during which the offence continues. "Cream" means that portion of natural milk rich in milk-fat which has been separated by skimming or otherwise. "Artificial cream" means an article of food resembling cream and containing no ingredient which is not derived from milk except water or any ingredient or material which by virtue of the proviso to Subsection 2 of Section 2 of the Food and Drugs (Adulteration) Act, 1928, may lawfully be contained in an article sold as cream. That proviso permits any ingredient or material not injurious to health to be added to an article of food because it is required for the production or preparation thereof as an article of commerce in a state fit for carriage or consumption.

II.—DECISIONS OF THE COURTS.

1. *Labour.*—*Pockney* v. *Atkinson* (27 L.G.R. 645; 15 Times L.R. 639) is an important case under the Agricultural Wages (Regulation) Act, 1924. It was decided that a verbal agreement to employ a worker in agriculture for a period, approximately a year, at a wage consisting of board and lodging, and a lump sum payable at the termination of the period, being together at a rate of wage in accordance with that required to be paid in the district under the Agricultural Wages (Regulation) Act, 1924, and the orders made thereunder, is not in contravention of the Act. When such an agreement is made and at a date before the termination of that period, the worker, having refused to obey a lawful order given by the employer, leaves the employment without notice and in breach of his contract, and refuses to complete the contract, the provisions of the Act do not impose upon the employer a liability to pay wages to the worker at a

rate not less than the minimum rate under the Act, or at any rate, for the period from the commencement of the employment to the date when the contract was broken, when no wages had accrued due to the worker.

In *Lord Advocate* v. *Wilson & Co.* ([1929] W.C. & Ins. Rep. 283 ; [1929] Sc.L.T. 513) it was held in Scotland that in determining whether a person is an employed person within the meaning of the Unemployment Insurance Act, 1920, it is relevant to consider the business of the employer as well as the nature of the work performed, and that in the circumstances of that case persons employed by a live-stock auctioneer in or in connection with an auction mart were insurable as employed persons in respect that though their work might be mainly of an agricultural nature, namely in relation to the management, droving or driving of live cattle and sheep in connection with the sale ring, they were employed in the separate business of an agent for sale who was not an employer engaged in agriculture.

2. *Landlord and Tenant.*—The cases relating to the law of landlord and tenant which have a bearing on agricultural tenancies have not been so numerous in 1929 as in some former years.

Re Wells ([1929] 2 Ch. 269 ; 98 L.J. Ch. 407) was a case on the law of distress. The tenant of a farm died intestate on March 26, 1928, and his administratrix entered upon and occupied the farm. She paid rent in respect of the quarter ending June 24, 1928, but since that date no rent had been paid. On November 27, 1928, a summons was taken out for the administration by the Court of the intestate's estate and an order made on December 12, 1928, and in February a receiver was appointed to receive the rents and profits of the leasehold estates and collect and get in the personal estate and to manage the farm. The estate was insolvent, and the landlord applied for leave to exercise his right of distress for three quarters rent due September 29, 1928, December 25, 1928, and March 25, 1929. It was contended that the rules in Bankruptcy applied and that the landlord could not distrain for the two quarters rent accruing due after the order for administration. It was held that the Bankruptcy Act did not apply in such an administration and that there was nothing to prevent the landlord distraining for the one quarter's rent due before and the two quarters falling due after the administration order was made.

In *Iveagh* v. *Harris* ([1929] 2 Ch. 142 ; 98 L.J. Ch. 280) an action was brought to recover possession of demised premises on the ground that the defendant had committed a breach of a restrictive covenant not to use the premises otherwise than as a private dwelling-house, and application was made by the lessee to the Judge to exercise the power conferred by Sect. 84

of the Law of Property Act, 1928, to give leave to apply to an Official Arbitrator to discharge or modify the covenant and to stay the action in the meantime. It was held that the action being for forfeiture of a lease was not one to enforce the restrictive covenant within the meaning of the Section and the application therefore failed.

Cameron v. *Nicol* (29 Sc.L.T. 653) was a Scottish case in which a question arose under the Agricultural Holdings (Scotland) Act, 1923, which is, generally speaking, in the same terms as the English Act of that year. A farmer outgoing tenant agreed with a person who was not then landlord but only prospectively landlord of the farm, but afterwards became its proprietor, to submit to an ordinary arbitration by two arbiters and an oversman (*Anglice*, two arbitrators and an umpire) claims in respect of certain fixtures, animals and implements, and the turnip and potato crop. It was objected that this arbitration was incompetent as the matter ought to have been dealt with under the Agricultural Holdings (Scotland) Act, 1923, Sections 15 and 16, which correspond to Section 16 of the English Act referring questions arising between landlord and tenant to the arbitration of a single arbitrator. It was held that the objection could not prevail as the agreement when entered into was not between parties who were at the time in the relation of landlord and tenant of the holding, and was therefore valid, although it contemplated a future relationship for a short time as landlord and tenant.

In *Clarey* v. *Woodthorpe* (*Estates Gazette*, Dec. 28, 1929) a County Court Judge held that notwithstanding Section 16 of the Agricultural Holdings Act, 1923, it was competent to a tenant by counterclaim in a County Court action to enforce a claim against his landlord under the custom of the country having regard to Section 54 of the Act which preserves any power, right or remedy of a landlord or tenant "except as in this Act expressed." It is not stated in the short report of this case what the claim by custom included, but if it included any claim under custom in respect of any improvement comprised in the First Schedule to the Act it is submitted that having regard to the express wording of Section 5 the decision is incorrect.

In another County Court case of *Deeleys' Executors* v. *Gosling* (reported in *Oxford Times*, August 16, 1929; see also 28 *Land Agent's Journal*, p. 936) the County Court Judge held that an outgoing tenant was entitled to compensation for temporary pasture laid down by him under item (28) of Part III of the Second Schedule to the Act, although the fields so laid down constituted a breach of the cropping covenants of his tenancy agreement which required him to leave in the last year of his tenancy a certain amount of the farm under other crops. In so holding the Judge differed from a decision to a contrary effect in a Scottish Court of *Thomson's Trustees* v. *Sanderson* (*Estates Gazette*, April 28, 1928).

3. *Stock and Crops.*—In the very important case of *Manchester Corporation and Farnworth* (99 L.J.K.B. 83; 27 L.G.R. 709), a farmer complained of and proved injury to his stock and crops by fumes from a generating station erected by the Manchester Corporation for the supply of electricity in the city of Manchester. At the instigation and with the support of the National Farmers' Union, he brought an action against them claiming damages for the nuisance and an injunction to restrain it. Mr. Justice Talbot decided against him on the ground that the station had been deliberately authorised by Parliament in the Manchester Corporation Act, 1914, and that the nuisance complained of was caused under the sanction of Parliament and could not be avoided. The Court of Appeal reversed this decision and held that the Corporation were not protected by their private Act because they had not proved that they had carried on and worked the generating station without negligence. The case then came before the House of Lords, who held with one dissentient that the Manchester Corporation Act, 1914, was not a "special Act" and therefore did not incorporate a nuisance clause by virtue of the Electric Lighting (Clauses) Act, 1899, which provides that nothing in a special Act shall exonerate the undertakers from any action or other proceedings for nuisance in the Court of any nuisance being caused or permitted by them, and therefore the House held that the nuisance could not be restrained under that enactment; but they held further that the Corporation had failed to prove that they had used all reasonable diligence and taken all reasonable steps and precautions to prevent their operations being a nuisance to their neighbours because their officers never directed their minds at the time of the erection of the generating station to the prevention of nuisances which it was quite obvious might occur, but thought that so long as their plant was efficiently and successfully conducted the neighbours must endure their consequent injuries. Viscount Dunedin in the course of his speech said that when Parliament has authorised a certain thing to be made or done in a certain place there can be no action for nuisance caused by the making or doing of that thing if the nuisance is the inevitable result of the making or doing so authorised. The onus, however, of proving that the result is inevitable is, he considered, on those who wish to escape liability for nuisance, but the criterion of inevitability is not what is theoretically possible but what is possible according to the state of scientific knowledge at the time, having regard to the practical feasibility with regard to situation and expense. The farmer therefore succeeded on the

appeal, but liberty was reserved to the Corporation to apply to dissolve the injunction on their establishing that they had exhausted all reasonable modes of preventing mischief to the plaintiff.

In *Brown & Sons* v. *Lincolnshire Beet Sugar Co.* (45 Times L.R. 199), a dispute arose between growers of sugar beet and a sugar beet factory upon the standard form of contract which contained a provision for a sliding scale and minimum price and for a tonnage bonus. The price depended on the average sale price per cwt. of sugar and other variable factors, and a tonnage bonus of 1*s.* per ton was to be given for every 10,000 tons of beets exceeding 50,000 tons worked at the factory during the season. The minimum price for properly washed and topped beets delivered at the factory on the basis of 15½ per cent. sugar content was to be 54*s.* per ton. The Court with some doubt held that the manufacturers were entitled to include the tonnage bonus in the minimum price, so that the growers would only get the bonus if it would bring the contract price above this minimum.

In *Easington Rural Council* v. *Gilson* (46 Times L.R. 107) it was held that a person carrying on business as a purveyor of milk must be registered under Article 6 of the Milk and Dairies Order, 1926, with the sanitary authority of each district in which he carries on business. It is not sufficient that he is registered with the sanitary authority of the district where his cowsheds and dairy are situated if he also carries on business in other districts where he has a regular milk round.

4. *Rates and Taxes.*—In *Inland Revenue Commissioners* v. *Marshall & Mitchell* ([1929] Sc.L.T. 42) income tax was claimed from a farmer, under Schedule D, in respect of profits from land which he took and paid for in addition to his upland farms for winter grazings. It was held that he was not so liable on the ground that the wintering of the sheep was a necessary incident of the business of an upland farm and not an additional and separate source of profit. He was therefore only liable under Schedule B on his farms.

In *Lowery* v. *Hull Corporation* (46 Times L.R. 57) it was held that when owners are rated instead of occupiers, according to a resolution of the rating authority under the Rating and Valuation Act, 1925, in respect of property of a small rateable value, the fact that the owners are entitled to an allowance if the rate is paid by a certain date does not preclude the rating authority from enforcing by distress at an earlier date payment of so much of the rate as is recoverable at one time under Section 2 of the Poor Rate Assessment and Collection Act, 1869.

5. *Miscellaneous.*—In *Hue* v. *Whiteley* ([1929] 1 Ch. 440; 98 L.J. Ch. 227) the question arose whether a certain roadway

part of a rough road used as a timber track was a public pathway or roadway, in which case the defendant was justified in constructing a gate from his premises opening on to it to which the plaintiff objected. There was evidence of user of the track for over sixty years by people who used it to get on to the highway, and the Judge on that evidence held that he must conclude that the path having been used as of right for many years had been dedicated as a public path. He said that the motive of the public user was irrelevant; and even if it were proved that the motive was purely one of pleasure or recreation dedication might nevertheless be inferred.

Pontardawe Rural Council v. *Moore-Gwyn* ([1929] 1 Ch. 656; 98 L.J. Ch. 242) raised an important question as to the liability of a landowner for damage caused by natural agencies on his property. The plaintiffs claimed relief in respect of the fall of certain rocks from adjoining land of which the defendant was owner as tenant for life. The rocks extended along the summit of a bluff or steep incline looking down on the valley in which Pontardawe is situated. In January, 1928, a large piece of rock weighing about five tons broke away and fell down the slope, crashing into a dwelling-house and causing damage. An inspector of the Ministry of Health together with a representative of the Geological Survey visited the place and reported that the fall of the rock was due to weathering and not to any mining operations, and that other falls appeared to be imminent. It was held by Mr. Justice Eve that the action was an attempt to impose on an owner, who was using and enjoying his land in the ordinary manner of its use and reasonably, liability for damage sustained by the property of another through natural agencies. There was no authority to support such a claim and it could not be maintained. He therefore dismissed the action.

In *Trafford* v. *Thrower* (45 Times L.R. 552) a question arose relating to the accretion to land, in this case to a bank of one of the Norfolk Broads. The dispute was as to the true boundary between the Wroxham Estate of the plaintiffs and land belonging to the defendant. The plaintiffs claimed that they were owners of all the land under the surface of Wroxham Broad up to the edge of the banks as shown by the Ordnance Survey Map of 1882. The defendant claimed to be owner of the marshland on the north-east bank of Wroxham Broad between it and the River Bure north of the main road to Norwich, of which he had been in occupation since 1903. The present edge of the broad did not coincide with the line shown on the Ordnance map of 1882, but showed a considerable shrinkage of the water and extension of the land westwards into the broad, the new boundary being more irregular than the old one. The defendant's case was that, except where the land was bounded by the River Bure and the

Norwich road, it was bounded by the edge of Wroxham Broad, and that in consequence of the shrinkage of the water there had been an accretion to his property of certain land which formerly belonged to the plaintiff. It was held, however, that this contention was not correct, and that the boundary of the plaintiff's land remained as it was shown in the map of 1882, at the then edge of the broad. The doctrine of accretion to property by the alteration in the water edge had no application to a non-tidal sheet of more or less stagnant water such as the broad. It was limited to the sea-shore and land abutting on rivers of running water and did not extend to canals, lakes or ponds.

Re Lord Sherborne's Settled Estates ([1929] 1 Ch. 345; 98 L.J. Ch. 273) was a case where a tenant for life of settled land sold property under the powers conferred on tenants for life by the Settled Land Act, 1925, and the purchase money had to be paid to the Settled Land Act trustees. He had himself been in occupation of a certain farm which was included in the sale, and he claimed to be paid out of the proceeds of sale £1,000 as attributable to the tenant-right valuation of the farm. He claimed to have spent considerable sums in laying down temporary pastures, applying basic slag and otherwise dealing with the land, which had considerably increased the value of the farm. He had on taking the farm over paid some £570 for the outgoing tenant's tenant right. It was however held that no such claim could be allowed in favour of a tenant for life selling land which had been in his own occupation.

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AGRICULTURAL STATISTICS, 1929

(The Society is again indebted to the Ministry of Agriculture and Fisheries for its kindness in supplying, for inclusion in the *Journal*, the usual detailed and comparative tables of the latest agricultural statistics. For fuller information than can be given in the limited space available here, the Department's own admirable series of Reports on Agricultural Statistics should, of course, be consulted.—ED.)

ACREAGE.

PARTICULARS of the acreage under the principal crops and of the numbers of live stock are given in Table I.

A further decline, amounting to 0·3 per cent. or 68,000 acres, in the area under crops and grass (excluding rough grazings) in England and Wales is shown by the returns made on June 4 by occupiers of agricultural holdings exceeding one acre in extent. This is a continuation of the movement which has been taking place for the past ten years or more, the loss since the end of the war amounting to about 1,300,000 acres. As compared with the average of 1912 to 1914, the latest total of 25,437,000 acres is 1,700,000 acres (6 per cent.) less. Once again the extent of land returned as rough grazings shows a rise, although the extra 28,000 acres under this head was little more than half the increase recorded in 1928. Since 1927, nearly 150,000 acres have been added to the area classified as in use for rough grazings. During the twelve months under review, therefore, the acreage of agricultural land as a whole was only some 40,000 acres (0·1 per cent.) less than in 1928.

The area recorded as arable land occupied 9,948,000 acres as against 10,109,000 acres on the previous June 4, but the reduction of 161,000 acres (1·6 per cent.) was appreciably less than that of 1927 and 1928. The pre-war arable area averaged over the three years 1912–14 was 11,131,000 acres, so that the latest returns represent a loss of 1,183,000 acres, or roughly 10 per cent. since that period. Permanent grass occupied 15,489,000 acres or 93,000 acres (0·6 per cent.) more than in 1928. As regards the distribution of agricultural land, the position immediately prior to the war was very little different from what it now is, arable land at that time accounting for 41 per cent. of the total area under cultivation as compared with 39 per cent. last year and 40 per cent. in 1928.

Turning to the individual crops, the area devoted to *Wheat* showed a decline of 66,000 acres (4·7 per cent.) to 1,330,000 acres. Thus the latest figures set up a new low record for this crop, the smallest acreage previously returned being the 1,338,000 acres of 1904. The reduction on the year was, however, much less marked than in 1928 when a drop of 14·7 per cent. was recorded. The wheat acreage has been steadily and persistently diminishing since 1918 when, at the height of the Food Production Campaign, 2,557,000 acres were sown, and as compared with the pre-war average, last year's total was about 460,000 acres (26 per cent.) less. With the exception of the North of England, the decrease was spread fairly generally over the country. In Yorkshire, over 17,000 more acres were sown, while an increase of 10,000 acres occurred in the Lindsey Division of Lincolnshire, but Lancashire and Norfolk lost 9,000 acres each, Essex and Cambridge 7,000 acres and Cheshire 6,000.

The augmented acreage sown to *Barley* in 1928 was not maintained last year, a drop of 65,000 acres, or 5·5 per cent., being recorded. The latest figure of 1,120,000 acres is smaller than in any year of the present century except 1927 when only 1,049,000 acres were returned and is close on 400,000 acres (over 25 per cent.) below the pre-war average. During the past decade the extent of land given over to barley has been reduced by fully half-a-million acres. Reductions in 1929 were widespread and particularly noticeable in the Northern, North-Eastern and Eastern Divisions, the shrinkage in Yorkshire being 19,000 acres, in Lincolnshire 13,000 acres and in Norfolk and Suffolk 8,000 acres each. It will be remembered that in 1928 Norfolk, Lincolnshire and Yorkshire figured prominently amongst the counties with a larger acreage of barley, between them accounting for an increase of over 60,000 acres, much of which has since been lost.

The year under review witnessed a further and more substantial revival in the area devoted to *Oats* which, at 1,854,000 acres, was 91,000 acres (5·2 per cent.) greater than in 1928, although still about 140,000 acres (7 per cent.) less than in 1912–14.

Taken together, the three principal cereal crops occupied about 4,304,000 acres last year as compared with 4,344,000 acres in 1928, 6,838,000 acres in 1918 and 5,290,000 acres during 1912–14, the reductions on these figures amounting to 0·9 per cent., 37 per cent. and 22·9 per cent. respectively.

Mixed corn was grown on 138,600 acres as against 119,300 acres in 1928, *i.e.*, an increase of 19,300 acres (or 16 per cent.), while the 4,200 acres added to the *Rye* acreage nearly made good the loss of 5,500 acres sustained in the previous year.

As regards the pulse crops, *Beans* suffered a further reverse last year, the area sown being only 157,000 acres, or over 13,000 acres (7·7 per cent.) below the level of 1928. The decline was confined to that part of the crop harvested as corn, the 144,000 acres returned under this head representing a drop of 8·6 per cent. on the year. Beans picked green occupied an additional 400 acres, or 3·2 per cent. The acreage devoted to beans as a whole has become appreciably smaller since the war, the figure recorded for 1919 being 285,000 acres or not far short of double the latest total. The pre-war average came out at approximately 280,000 acres. *Peas*, however, gained over 18,000 acres (16 per cent.) to 132,000 acres, this being the first upward movement to take place since 1924, when 171,000 acres were sown. The extra acreage was divided evenly between that part of the crop harvested as corn and that cut green, the relative percentage additions amounting to 13·4 and 20·4.

The two pulse crops combined occupied 290,000 acres as against 284,000 acres in 1928, *i.e.*, an increase of over 5,500 acres (2 per cent.) but some 37 per cent. (168,000 acres) below the pre-war average.

The reduction of 25,000 acres in the area planted with *Potatoes* in 1928 was more than recovered last year, the latest total revealing an increase of practically 30,000 acres (6·1 per cent.). While most counties returned augmented figures, the most notable advances were recorded in Lincolnshire (9,100 acres), the Isle of Ely (4,400 acres) and Yorkshire (3,800 acres). Last year's total acreage, amounting to 519,000 acres, was greater than in any year since 1922 when 561,000 acres were sown and compares very favourably with the 456,000 acres of 1912–14. Under the stimulus of the Food Production Campaign the area in 1918 rose to as much as 634,000 acres, and it is interesting to observe that while the amount of land devoted to potato production has naturally fallen considerably since then, it has remained markedly above the pre-war level. During the ten years immediately prior to the war the acreage ranged from 403,000 acres to 464,000 acres, whereas during the past decade the lowest point reached was the 452,000 acres of 1924 and the highest the 561,000 acres of 1922.

Following the slight revival that took place in 1928 in the acreage of *Turnips and Swedes*, a comparatively heavy set-back was recorded last year, the 700,000 acres returned representing a drop of 22,000 acres, or 3 per cent. The heaviest individual decrease occurred in Norfolk and amounted to over 6,000 acres. The manner in which the extent of land utilised for the production of these two fodder roots has diminished over a series of years is well illustrated by pointing out that in 1900 1,223,000 acres were sown, in 1905 1,144,000 acres, in 1910 1,123,000 acres, in 1915 932,000 acres and in 1925 806,000 acres.

The acreage of *Mangolds* was a trifle higher at 299,000 acres, this being the first increase to occur since 1922. The pre-war average came out at about 446,000 acres.

Taken together, the principal fodder roots occupied about 998,000 acres in 1929 as compared with 1,021,000 acres in 1928 and an average of over 1,500,000 acres in 1912–14.

Hops were grown on much the same acreage as in 1928, the 23,990 acres recorded being only 180 acres (0·8 per cent.) greater on the year. The average of the three pre-war years was 35,700 acres, while from 1921 to 1926 the crop was remarkably stable at round about 25,000 acres. In 1927 a loss of 2,500 acres was sustained, followed by a slight recovery the succeeding year. Of the most recent total, 14,870 acres (62 per cent.) belonged to Kent, 3,850 acres (16 per cent.) to Hereford, 2,140 acres (9 per cent.) to Sussex and 1,820 acres (8 per cent.) to Worcester. Thus for some years past the ratio as between the more important hop-growing counties has, to all intents and purposes, remained constant.

Following a reduction of 24,000 acres in the area under *Clover and Rotation Grasses* between 1927 and 1928, a further 67,000 were lost last year, grasses cut for hay accounting for 44,000 acres and those used for grazing, 23,000 acres. The latest total of 2,370,000 acres is a little over 95,000 acres (4 per cent.) below the pre-war level. The proportion of the permanent pasture mown at 30 per cent., was a trifle higher than in the preceding year.

It will be remembered that following a period of rapid extension, the area given over to *Sugar Beet* fell by close on 50,000 acres in 1928. Last year, however, this loss was more than made good, the area recorded on June 4 totalling almost 230,000 acres, an increase of 54,000 acres (31 per cent.) on the twelve months. The latest figure is the highest yet reached, and compares with 223,000 acres in 1927, 126,000 acres in 1926, 55,000 acres in 1925 and 22,000 acres in 1924. Norfolk contributed 12,000 acres to the increase, Lincolnshire 10,000 acres and Suffolk 8,000 acres, the area under sugar beet in each of these three counties expressed as a percentage of the total area under crops and grass in the county being 5·3, 2·2 and 5·2 respectively, while the corresponding figure for the Isle of Ely was 9·4 per cent.

Of the remaining crops, *Lucerne* showed a drop of 1,300 acres (3·5 per cent.) to 35,800 acres, while *Mustard for Seed* declined by 3,700 acres (13·8 per cent.) to 23,100 acres. Among the vegetables, 3,700 acres less of *Brussels Sprouts* were grown, but *Cauliflowers* rose by 400 acres (3 per cent.) to 13,900 acres; *Carrots* by 300 acres (also 3 per cent.) to 10,300 acres and *Onions* by 700 acres (41·2 per cent.) to 2,400 acres.

The total area under *Fruit* was unchanged at 313,000 acres, a slight increase in small fruit being counterbalanced by a corresponding reduction in orchards. Worcester and Hereford between them lost 942 acres of orchard land, but the extension in Kent amounted to 995 acres.

LIVE STOCK.

The 1929 Returns show a continuance of the decline in the number of *Horses* on agricultural holdings, the total of 999,000 being over 39,000 (nearly 4 per cent.) less than a year earlier. The downward movement has been most pronounced during the last eight years, there having been a regular falling-off every year since June 1921 when 1,385,000 were returned. Horses used for agricultural purposes suffered by far the heaviest drop, numbering 707,000 as against 732,000 in 1928, *i.e.*, a reduction of about 25,000, or 3·5 per cent. The 127,000 unbroken horses were roughly 8,000 fewer on the year, but of this reduction, foals were responsible for only 700, which compares very favourably with the reduction of 2,100 which occurred in 1928. Under the heading "other horses," a loss of 5,806 (3·4 per cent.) to 165,700 is revealed.

During the year under review, there was a further shrinkage in the number of *Cattle*, the most recent total being 5,956,000 as against 6,026,000, *i.e.*, a fall of 70,000 or 1·2 per cent. Between 1927 and 1928 a reduction of almost 4 per cent. was recorded. The figures are, nevertheless, still above the pre-war average of 5,812,000. From 1915 until 1919 there were over 6,000,000 cattle in the country, but a sharp decline took place in 1920 and the 6,000,000 mark was not reached again until 1925. The latest reduction was relatively the least pronounced among the dairy herds, the decreases of 12,900 (0·6 per cent.) and 8,100 (2·7 per cent.) respectively in cows and heifers in milk and cows in calf but not in milk being partially offset by an increase of 9,300 (2·6 per cent.) among in-calf heifers. "Other" cattle accounted for over 80 per cent. (59,000) of the total drop, of which 54 per cent. (32,000) was among cattle aged one year and under two. As compared with 1928, "other" cattle of two years and over were fewer by 9,400 (9·3 per cent.) and those under one year old by 17,700 (1·6 per cent.).

It will be recalled that in 1928 the number of *Sheep* suffered the first set-back to occur since the drop of 394,000 between 1921 and 1922. Last year a further reduction was in evidence, the flocks totalling 16,103,000 as against 16,400,000 in 1928. As compared with the pre-war average the latest figures are 1,378,000 (8 per cent.) lower. The loss of breeding ewes amounted to 134,500 (2 per cent.), while "other" sheep of one year and over were reduced by 99,600 (3·8 per cent.) and those under one year by 62,100 (0·9 per cent.). The decline in the number of breeding ewes was fairly generally distributed throughout the country with the exception of the East and West Midlands and the Northern counties, where increases were usually recorded. Rams and ram lambs to be used for service numbered 203,700 —a rise on the year of 12,200 or 6·4 per cent.

Just as 1928 was in its way remarkable for the heavy increase in the *Pig* population which brought the total very close to the record of 1924, so was last year notable for the fact of the heaviest reduction in any one year since 1892. The 2,364,000 pigs recorded were over 600,000 (20 per cent.) fewer than twelve months earlier, and only some 4,000 more than in the three pre-war years. Sows kept for breeding totalled 306,800, or 73,200 (19 per cent.) less than in 1928, while the 2,037,000 other pigs represented a decline of over half-a-million (21 per cent.), losses being returned from every county.

PRODUCE OF CROPS.

Particulars of the production and yield per acre of the principal crops are given in Table II.[1]

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[1] Although the table includes particulars for Scotland, exigencies of space make it necessary for this review to be confined to England and Wales.

Wheat returned an exceptionally heavy yield last year, the 19·1 cwt. per acre comparing with 18·1 cwt. in 1928 and a ten-year average of 17·3 cwt. Since 1914 a better yield has been recorded on only one occasion, viz. in 1921 (19·8 cwt.). In East Suffolk there was a remarkable increase, the yield coming out at 5·1 cwt. per acre above average, while the Holland Division of Lincolnshire showed an over-average yield of 3·7 cwt. per acre. In spite of a drop of 66,000 acres in the land sown under wheat, therefore, the total production amounted to 1,271,000 tons as compared with 1,266,000 tons in the preceding year, *i.e.*, an increase of 5,000 tons or 0·4 per cent. In 1914, 1,634,000 tons of wheat were produced, so that the latest total is still over 350,000 tons (22 per cent.) less than the pre-war level.

The twelve months under review were very favourable to the *Barley* crop also, the yield being computed at 17·8 cwt. per acre or 0·6 cwt. above the 1928 yield and 2·6 cwt. in excess of the average of the previous ten years. Yields since 1922 have shown a steady improvement with the exception of a slight check in 1925. The increase in last year's yield, however, failed to compensate fully for the loss of 65,000 acres under the crop, the total production being 998,000 tons or 21,000 tons (2 per cent.) lower on the year, and 186,000 tons (15 per cent.) less than in 1914, when the yield was only 15·7 cwt. per acre.

Oats, at 16·5 cwt. per acre, yielded a trifle more than in 1928 and 2·4 cwt. above the ten-year average. This, combined with an increase of 91,000 acres in the area sown, resulted in the total output rising from the 1,443,000 tons of 1928, to 1,532,000 tons or by practically 90,000 tons (6 per cent.). Not since 1919 has a greater production been recorded, the total in that year amounting to 1,566,000 tons on a yield of 12·2 cwt. per acre, while the 1914 level was over 190,000 tons (14 per cent.) below that of last year.

Taking the three main cereal crops together, the aggregate output in 1929 was 3,800,000 tons as against 3,728,000 tons in 1928, 3,629,000 tons in 1927 and 3,710,000 tons in 1926. In 1914, the production totalled 4,158,000 tons, *i.e.*, 357,000 tons (8·6 per cent.) more, while at the height of the Food Production Campaign in 1918 over five-and-a-half million tons were secured.

For the second year in succession, the yield of *Beans* fell away, the 15·2 cwt. per acre returned last year representing a drop of 1·4 cwt. from 1928 and 1·0 cwt. less than the average of the preceding decade. With the acreage reduced by 13,000 acres, the out-turn amounted to 111,000 tons as compared with 130,000 tons in 1928, and was less than at any time since 1917 when only 98,000 tons were produced.

Peas, on the other hand, fared particularly well last year, yielding 16·3 cwt. to the acre as compared with 15·9 cwt. in

1928, and a ten-year average of 14 cwt. As the extent of land given over to peas was larger by 18,000 acres the output rose by 9,000 tons (17 per cent.) to 64,000 tons.

The yield of *Potatoes*, at 6·9 tons per acre, was hardly so good as in 1928 but was still appreciably above the average of 6·1 tons for the former ten years and compares favourably with the 5·9 tons and 5·5 tons respectively in 1927 and 1926. Norfolk returned the highest yield (9·9 tons per acre), while in the Isle of Ely the figure came out at 8·1 tons. As the extent of potato land was greater by some 30,000 acres, the total output rose by 75,000 tons (2 per cent.) to 3,588,000 tons, this being the heaviest return since the 4,012,000 tons of 1922 and as much as 18 per cent. more than in 1914.

Turnips and Swedes were a disappointing crop, yielding only 11·9 tons to the acre as against 13·8 tons in 1928 and a ten-year average of 12·5 tons. On an area smaller by over 20,000 acres, the total production dropped by 1,649,000 tons (17 per cent.) to 8,304,000 tons, which is the lowest recorded since the 6,608,000 tons of 1921, when the yield was no more than 7·4 tons per acre.

Mangolds, however, fairly well maintained the yield of 1928, being actually 0·3 tons less at 19·0 tons per acre but slightly in excess of the preceding ten years' average. On a somewhat augmented acreage, the total output amounted to 5,687,000 tons or 68,000 tons (1·2 per cent.) less than in 1928.

The yields of both *Seeds Hay* and *Meadow Hay* were substantially lower than twelve months earlier, the prolonged drought reacting unfavourably on the crop. The former variety yielded only 22·9 cwt. per acre as compared with 27·3 cwt. in 1928 and a ten-year average of 27·8 cwt., and the latter 15·3 cwt. as against 19·0 cwt. and 20·3 cwt. respectively. Reductions were very general throughout the country but were least marked in the North, South-West and in Wales, where the weather conditions were not so unfavourable as in other parts. On a reduced acreage the out-turn of seeds hay fell by 396,000 tons to 1,746,000 tons, while notwithstanding the larger area of meadow hay cut, the production declined by 681,000 tons to 3,595,000 tons. The aggregate crop from both kinds of hay amounted to 5,341,000 tons as compared with 6,418,000 tons in 1928, *i.e.*, 17 per cent. less.

As will be seen from Table III, the yield of *Hops* in England last year, at 15·0 cwt. per acre, was practically 50 per cent. greater than in 1928 and 3·1 cwt. in excess of the ten-year average. With favourable weather conditions prevailing generally, all districts returned higher yields, that in East Kent amounting to 17·2 cwt. per acre, followed by Sussex with 16·8 cwt. and Hampshire with 16·7 cwt. The total production of hops came out at 359,000 cwt. or 117,000 cwt. (48 per cent.) more on the twelve months, this figure being the highest recorded since the 444,000 cwt. of 1924 and compares with a pre-war crop of about 320,000 cwt. The increase in Kent amounted to 71,000 cwt. (44 per cent.), in Hereford 20,000 cwt. (67 per cent.), in Sussex 14,000 cwt. (64 per cent.) and in Hampshire 4,500 cwt. (36 per cent.).

PRICES.

The index numbers prepared and published by the Ministry of Agriculture and Fisheries show that prices of the principal agricultural commodities last year were on average 44 per cent. above those ruling in the base years 1911–13, as compared with 47 per cent. in 1928, 44 per cent. in 1927, 51 per cent. in 1926, 59 per cent. in 1925 and 61 per cent. in 1924. The fall of 3 points during the period under review was the result of lower prices prevailing for many commodities, the declines being most marked in the case of barley, oats, fat cattle and sheep, potatoes, hops and wool. These were, however, partially offset by increases in values for fat pigs, milk, eggs and hay.

GRAIN.

Tables IV and V give the average prices of *British Corn* during each week of 1929, together with the annual averages over the past ten years. On the whole, *Wheat* was a little cheaper last year than in 1928, the average coming out at 9*s*. 10*d*. per cwt. as against 10*s*., and the index number was only 2 points lower at 30 per cent. above pre-war. In 1927 wheat averaged 52 per cent. above 1911–13, while in 1926 the figure was as high as 64 per cent. Commencing at 9*s*. 5*d*. per cwt., wheat prices last year reached the 10*s*. mark in only one week up to the beginning of July, whereas in 1928 values ranged from 10*s*. up to 10*s*. 10*d*. from the end of March to the beginning of May and were above 11*s*. for the greater part of May and June. Actually, however, values during the first three weeks of last August, at an average of about 12*s*. per cwt., were in excess of those recorded in any week of 1928. The twelve months under review closed with an average of 9*s*. 6*d*. per cwt., the same as for the corresponding week of the preceding year. Unlike wheat, *Barley* was appreciably cheaper last year than in 1928, the annual average being 9*s*. 11*d*. per cwt. as against 11*s*. The index number, at 25 per cent. above pre-war, was 14 points lower on the twelve months and 6 points under the comparatively low level of 1926. Quotations were fairly steady until the beginning of November, but from then onwards a rapid decline was in evidence, the closing price being only 8*s*. 8*d*. per cwt. as against 10*s*. 2*d*. in 1928. The peak price of the year, viz.

11*s*. 5*d*. per cwt., was recorded early in September, which compares with a top figure of 14*s*. 1*d*. reached round about the same period of 1928. *Oats*, too, realised very poor prices last year, the average declining by as much as 1*s*. 7*d*. to 8*s*. 10*d*. per cwt., this figure being the lowest recorded in the past ten years. In 1928, oats averaged 10*s*. 5*d*. per cwt., in 1927 9*s*. 1*d*., and in 1926 9*s*. The index number dropped by 22 points to 25 per cent. over 1911–13. Although values at the commencement of the twelve months under review were a mere 3*d*. per cwt. less than in the opening week of 1928, the customary improvement from February onwards was of very small dimensions, the top price of the year being no more than 9*s*. 10*d*. per cwt. as compared with 13*s*. 1*d*. in 1928. The marketing of the new crop brought about the usual reductions and the average price of 7*s*. per cwt. at the end of the year was 1*s*. 11*d*. less than during the corresponding week of the preceding twelve months.

LIVE STOCK.

The higher prices secured for *Fat Cattle* in 1928 were not maintained last year, and the index number declined by 5 points to 33 per cent. above the base level, which compares with 27 per cent. in 1927, 41 per cent. in 1926 and 51 per cent. in 1925. Table VI shows the monthly average prices of fat stock and milking cows, while Table VII gives the ten-year averages for the various classes.

First-quality Shorthorns realised on average 52*s*. 4*d*. per live cwt. and second-quality beasts 45*s*. 10*d*. Both classes commenced the year in rather better style than in 1928, prices being roughly 2*s*. per live cwt. higher, but by as early as March they had fallen to about 2*s*. 6*d*. per live cwt. below the levels ruling in the corresponding month of the preceding year. Values were highest in May, best Shorthorns then averaging 55*s*. 1*d*. per live cwt. and secondary sorts 48*s*. 6*d*. as against the 63*s*. 4*d*. and 54*s*. 10*d*. respectively of June 1928. From May onwards a gradual falling away was noticeable, as is customary about this time of the year, until the advent of the Christmas Fat Stock Shows, when, with better-quality beasts being offered, prices rose appreciably. Taking the year as a whole, values showed remarkably little variation, the difference between the highest and lowest figures amounting to only about 5*s*. per live cwt. as against 13*s*. in 1928. Herefords made rather more money than Shorthorns, the averages for the year coming out at 52*s*. 6*d*. per live cwt. for first-quality animals and 47*s*. 10*d*. for secondary descriptions. Quotations rose steadily from January to May, in which month the best Herefords averaged 54*s*. 10*d*. per live cwt., but by October the figure had fallen to 50*s*. 4*d*., the year finishing with 53*s*. 7*d*. In spite of the annual average being about 2*s*. per live cwt.

less than in 1928, values were higher during five months of the year, but the peak price was a long way short of the 62*s.* 5*d.* of May 1928, while it must be borne in mind that in April and June also of that year values were above the 60*s.* mark. Devons, too, failed to reach such high price levels as in 1928, values during the period under review showing very little variation. In 1928, the difference between the highest and lowest figures for first-quality cattle amounted to close on 14*s.* per live cwt., while last year the margin was less than 4*s.* 6*d.* Over the twelve months as a whole, the best Devons averaged 56*s.* 4*d.* per live cwt. and secondary sorts 50*s.* 1*d.* as compared with 56*s.* 8*d.* and 49*s.* 7*d.* in 1928 and 52*s.* 9*d.* and 47*s.* 6*d.* in 1927. As with best beef, fat cows were somewhat cheaper on the year, averaging 39*s.* 7*d.* and 31*s.* 8*d.* respectively per live cwt. for first and second quality as against 40*s.* 10*d.* and 33*s.* in 1928. Cows were most remunerative in May, first quality then reaching on average 41*s.* 9*d.* per live cwt. and secondary sorts 33*s.* 9*d.*, while prices were lowest in October.

The course of prices of *Fat Sheep* was very similar to that of cattle. The index number declined by 10 points to 57 per cent. over pre-war, as compared with 50 per cent. in 1927 and 57 per cent. in 1926, the drop being due mainly to the fact that values did not rise to the same extent in the spring and early summer as in the preceding year. Actually, prices during the closing three months of last year were usually fully equal to, and in some instances above, those ruling in the corresponding period of 1928. First-quality Downs realised up to 14¾*d.* per lb. and secondary sheep up to 13*d.* as against 16¾*d.* and 14¾*d.* in the previous year, the averages for the year coming out at 14*d.* and 12¼*d.* per lb. respectively, or ¾*d.* and ½*d.* less. The highest quotations reached by longwools were the 14*d.* and 12¼*d.* per lb. respectively of March and the lowest the 11¾*d.* and 10½*d.* in July. The annual average for best-quality animals was 12¾*d.* per lb. or ¾*d.* per lb. below the 1928 figure. Values for crossbreds were at their peak during the first quarter of the year, hardly any variation occurring during those three months. Over the year as a whole there was a reduction of 1*d.* per lb. for first quality and ¾*d.* for second.

It will be recalled that quotations for *Fat Pigs* slumped heavily between 1926 and 1927, followed by a further, although less severe, fall the succeeding year. During the period under review, however, a substantial revival took place, the index figure for bacon pigs advancing by 25 points to 60 per cent. above pre-war and for porkers by 27 points to 65 per cent. The comparable index numbers for baconers during 1927 and 1926 stood at 44 per cent, and 80 per cent. respectively over 1911–13, and for porkers at 55 per cent. and 84 per cent. As will be seen from the footnote to Table VI, fat pig prices are this year given per score lbs. and not per 14 lb. stone as heretofore. The change has been made in order to conform to the method of quoting now being followed by the Ministry of Agriculture and Fisheries in its weekly *Agricultural Market Report.* Baconers consistently became dearer during the first five months of the year, but prices subsequently declined and no real upward movement was noticeable until December when, influenced by the seasonal demand, a substantial rise took place, although the high levels of May were not again reached. On the year, first-quality baconers averaged 17*s.* 3*d.* per score and second-quality pigs 15*s.* 11*d.* or 2*s.* 4*d.* and 2*s.* 6*d.* per score respectively more than in 1928. For the first six months or so of the year, values for porkers followed a similar movement to those for baconers, but the check sustained in June proved to be of a purely temporary character, and with a renewal of the upward movement in the autumn, prices rose above the May levels, December being the peak month for both qualities. The annual average for best porkers came out at 18*s.* 11*d.* per score and for secondary descriptions 17*s.* 6*d.*, representing advances on the year of 2*s.* 9*d.* and 2*s.* 10*d.* respectively per score.

Veal Calves realised rather higher prices during the first quarter of the year than in the corresponding period of 1928, but in the spring and summer months they were cheaper and over the year as a whole no change was recorded, first-quality calves averaging 13½*d.* per lb. and second quality 11½*d.*

Of the *Dairy Cows*, first-quality Shorthorns in milk were a trifle dearer at an average of £30 10*s.* per head, but secondary descriptions, at £24 8*s.* per head, were 7*s.* cheaper on the year. Prices were again highest in November but fell short of the top figures of 1928 by from 3*s.* to 12*s.* per head. On average the best calvers were unaltered at £27 9*s.* per head, but second-quality beasts realised about 8*s.* per head less than in 1928, values for these remaining at lower levels from May onwards.

DAIRY AND POULTRY PRODUCE.

The index number for *Milk* rose by 8 points to 69 per cent. above pre-war, as against 60 per cent. in 1927 and 70 per cent. from 1924 to 1926. *Butter* prices showed little change as compared with 1928, the index figure being one point higher at 52 per cent. in excess of 1911–13.

A substantial fall in values for *Cheese* at the end of the year under review caused the index number to decline by 17 points to 58 per cent. over the base level. *Eggs* were scarce during the unusually protracted spell of cold weather experienced in February and March and supplies again became short in the early autumn.

As a result prices at these times were higher than usual, and the index number for the year revealed a rise of 13 points to 59 per cent. above pre-war.

OTHER COMMODITIES.

The twelve months under review saw *Potato* prices slump to below pre-war figures, the depression being noticeable from the spring onwards and the index number for the year stood at only 17 per cent. above 1911–13, as compared with 71 per cent. in 1928 and 74 per cent. in 1927. *Hay* was dearer than at any time since 1923, averaging 25 per cent. over the base level as against 11 per cent. in 1928 and 8 per cent. in 1927. Quotations at the commencement of the year were substantially lower than those ruling at the corresponding period of 1928, but from then onwards they rose steadily and by the autumn averaged about 40 per cent. in excess of pre-war, remaining at about this figure up to December. *Wool* averaged only 26 per cent. above 1911–13—a drop of 50 points on the year—but at this level the index number was more consistent with those for 1925, 1926 and 1927. From the fairly good level of 26 per cent. over 1911–13 recorded in 1928, prices of *Hops* slumped to 49 per cent. below pre-war figures.

Fruit, especially currants and gooseberries, usually realised less than in 1928, strawberries exceptionally being dearer. *Vegetables* also were cheaper as a rule.

FEEDING STUFFS.

The index number for *Feeding Stuffs* last year was 39 per cent. above the pre-war level, as compared with 54 per cent. in 1928, 39 per cent. in 1927, 25 per cent. in 1926 and 52 per cent. in 1925. Practically all descriptions of feeding stuffs became cheaper, but the reductions in the prices of imported feeding barley, maize and milling offals were the chief contributory causes to the drop of 15 points in the index number.

FERTILISERS.

Fertilisers as a whole sold at pre-war prices, the index figure showing an advance of 2 points on the year. In 1927 fertilisers were 10 per cent. dearer than in 1911–13, in 1926 13 per cent. and in 1925 14 per cent. Nitrate of soda again became substantially cheaper at £9 18*s*. per ton or 7 per cent. below pre-war cost, while values for sulphate of ammonia were 5*s*. per ton lower. Superphosphate was dearer throughout the year and averaged 14 per cent. in excess of the base level, while kainit showed a slight upward movement to £3 1*s*. per ton.

TABLE I.—Acreage under Crops and Grass ; *and* Number of Live Stock *as returned on 4th June*, 1929, *and 4th June*, 1928, *in England and Wales.*

	England (excluding Monmouth)		Wales (including Monmouth)	
	1929	1928	1929	1928
Total Area (excluding Water)	Acres 32,034,017		Acres 5,098,878	
Total Acreage under Crops and Grass [1]	22,675,769	22,739,469	2,761,910	2,765,783
Arable Land	9,302,954	9,473,665	644,804	635,080
Permanent Grass for Hay	4,068,954	3,888,937	626,909	611,226
„ „ not for Hay	9,303,861	9,376,867	1,490,197	1,519,477
Rough Grazings	3,562,209	3,534,601	1,720,675	1,643,357
Wheat	1,310,115	1,374,942	20,094	20,601
Barley	1,077,332	1,139,831	42,950	45,172
Oats	1,683,542	1,595,757	170,866	166,959
Mixed Corn	119,099	99,182	21,346	20,121
Rye	34,182	30,307	188	199
Beans	156,243	169,154	807	817
Peas	132,011	113,540	491	468
Potatoes	496,241	466,629	22,567	22,390
Turnips and Swedes	657,413	680,387	41,963	41,876
Mangold	288,531	287,686	10,643	10,703
Sugar Beet	229,353	175,542	565	192
Cabbage for Fodder, Kohl Rabi and Rape	114,490	113,455	10,227	11,487
Vetches or Tares	67,493	67,271	386	394
Lucerne	35,633	36,945	150	159
Hops	23,986	23,805	—	—
Small Fruit [2]	64,147	63,952	795	769
Orchards	243,021	243,005	5,332	5,374
Clover, Sainfoin and Grasses under Rotation for Hay	1,348,293	1,396,724	175,460	171,219
Clover, Sainfoin and Grasses under Rotation, not for Hay	731,392	760,026	114,333	108,931
Other Crops	198,843	202,419	2,866	2,680
Bare Fallow	322,345	463,346	3,044	4,789
	No.	No.	No.	No.
Horses used for Agriculture,[3]	627,831	651,620	78,934	80,890
Stallions being used for Service	2,185	2,228	660	772
Unbroken Horses { One year and above	72,164	76,113	17,110	17,178
Unbroken Horses { Under one year	28,622	29,094	8,961	9,067
Other Horses on Agricultural Holdings	141,475	147,963	21,331	23,540
TOTAL HORSES	872,277	907,013	126,996	131,447
Cows and Heifers in Milk	1,789,123	1,794,997	264,950	271,486
Cows in Calf but not in Milk	261,754	270,339	31,961	31,435
Heifers in Calf	330,976	325,231	33,787	30,000
Bulls being used for Service	69,423	70,859	10,848	11,253
Other Cattle { Two years old and above	835,928	842,707	82,950	83,273
Other Cattle { One year and under two	958,012	979,736	185,628	195,220
Other Cattle { Under one year	918,682	924,507	183,572	195,390
TOTAL OF CATTLE	5,163,898	5,208,376	793,696	818,057
Ewes kept for Breeding	4,905,225	5,021,807	1,812,033	1,825,105
Rams and Ram Lambs to be used for service	135,309	139,213	51,900	52,278
Other Sheep { One year and above	1,746,991	1,803,370	519,771	575,907
Other Sheep { Under one year	5,372,562	5,434,736	1,561,662	1,547,194
TOTAL OF SHEEP	12,160,087	12,399,126	3,945,366	4,000,484
Sows kept for Breeding	278,168	345,295	28,976	34,768
Boars being used for Service	20,653	24,666	1,272	1,556
Other Pigs	1,873,807	2,354,698	163,667	210,060
TOTAL OF PIGS	2,172,628	2,724,659	193,915	246,384

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[1] Not including Rough Grazings.

[2] Including Small Fruit in Orchards, which in 1929 totalled 30,751 acres in England and 269 acres in Wales.

[3] Including Mares kept for Breeding.

TABLE II.—Total Produce, Acreage and Yield per *(a) in* 1929 *and* 1928, *with the Average*

Crops	Total Produce		Acreage		Yield per Acre		Average of the Ten Years
	1929	1928	1929	1928	1929	1928	1919–1928
WHEAT	Tons	Tons	Acres	Acres	Cwt.	Cwt.	Cwt.
*England . . .	1,255,000	1,250,000	1,310,094	1,374,928	19·2	18·2	17·4
†Wales . . .	16,000	16,000	20,094	20,601	15·7	15·4	14·9
Scotland . . .	58,000	62,000	50,730	58,227	22·9	21·2	21·0
GREAT BRITAIN .	1,329,000	1,328,000	*c* 1,380,918	*c* 1,453,756	19·2	18·3	17·5
BARLEY *b*							
*England . . .	966,000	986,000	1,077,307	1,139,809	17·9	17·3	15·3
†Wales . . .	32,000	33,000	42,950	45,172	14·9	14·6	13·1
Scotland . . .	101,000	103,000	100,549	111,924	20·1	18·4	17·5
GREAT BRITAIN .	1,099,000	1,122,000	*c* 1,220,806	*c* 1,296,905	18·0	17·3	15·4
OATS							
*England . . .	1,399,000	1,326,000	1,683,235	1,595,451	16·6	16·6	14·4
†Wales . . .	123,000	117,000	170,606	166,959	14·5	14·0	11·2
Scotland . . .	755,000	704,000	888,731	878,436	17·0	16·0	14·6
GREAT BRITAIN .	2,277,000	2,147,000	*c* 2,742,572	*c* 2,640,846	16·6	16·3	14·3
BEANS							
*England . . .	109,500	130,000	143,888	156,915	15·2	16·6	16·2
†Wales . . .	400	500	551	587	16·3	16·7	15·3
Scotland . . .	2,700	3,000	2,833	3,151	19·3	18·9	18·3
GREAT BRITAIN .	112,600	133,500	*d* 147,272	*d* 160,653	15·3	16·6	16·2
PEAS							
*England . . .	63,990	54,950	78,541	69,180	16·3	15·9	14·0
†Wales . . .	60	70	101	108	12·3	12·2	11·0
Scotland . . .	40	8	50	17	13·8	9·0	9·6
GREAT BRITAIN .	64,090	55,028	*d* 78,692	*d* 69,305	16·3	15·9	14·0

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* Excluding Monmouth. † Including Monmouth.

(*a*) The particulars for Scotland have been furnished by the Department of Agriculture for Scotland.

(*b*) Including Bere.

(*c*) Exclusive of a certain area (amounting in 1929 to 21 acres of Wheat, 25 acres of Barley, 567 acres of Oats) the produce of which was cut green.

Acre *of each of the* Principal Crops *in* Great Britain *yield per acre of the Ten Years* 1919–1928.

Crops	Total Produce		Acreage		Yield per Acre		Average of the Ten Years 1919–1928
	1929	1928	1929	1928	1929	1928	
POTATOES	Tons	Tons	Acres	Acres	Tons	Tons	Tons
*England . . .	3,446,000	3,386,000	496,241	466,629	6·9	7·3	6·2
†Wales . . .	142,000	127,000	22,567	22,390	6·3	5·7	5·2
Scotland . . .	1,155,000	1,032,000	144,770	144,026	8·0	7·2	6·5
GREAT BRITAIN .	4,743,000	4,545,000	663,578	633,045	7·1	7·2	6·2
TURNIPS AND SWEDES							
*England . . .	7,704,000	9,344,000	655,918	678,339	11·7	13·8	12·4
†Wales . . .	599,000	609,000	41,963	41,876	14·3	14·5	12·9
Scotland . . .	6,606,000	6,660,000	371,273	378,003	17·8	17·6	17·0
GREAT BRITAIN .	14,909,000	16,613,000	*e* 1,069,154	*e* 1,098,218	13·9	15·1	13·9
MANGOLD							
*England . . .	5,492,000	5,570,000	288,054	286,924	19·1	19·4	18·9
†Wales . . .	195,000	185,000	10,643	10,709	18·3	17·3	16·2
Scotland . . .	24,800	21,600	1,204	1,250	20·6	17·3	17·8
GREAT BRITAIN .	5,711,800	5,776,600	*f* 299,901	*f* 298, 88	19·0	19·3	18·8
HAY *from* CLOVER, SAINFOIN, &C.					Cwt.	Cwt.	Cwt.
*England . . .	1,554,000	1,947,000	1,348,293	1,396,724	23·1	27·9	28·3
†Wales . . .	194,000	195,000	175,460	171,219	22·1	22·7	24·0
Scotland . . .	681,000	627,000	408,322	400,753	33·3	31·3	31·6
GREAT BRITAIN .	2,429,000	2,769,000	1,932,075	1,968,696	25·1	28·1	28·6
HAY *from* PERMANENT GRASS.							
*England . . .	3,048,000	3,742,000	4,068,954	3,883,937	15·0	19·2	20·5
†Wales . . .	540,000	534,000	626,909	611,226	17·2	17·5	18·7
Scotland . . .	269,000	257,000	167,868	166,300	32·1	31·0	30·9
GREAT BRITAIN .	3,857,000	4,533,000	4,863,731	4,666,463	15·9	19·4	20·7

(*d*) Exclusive of a certain area (amounting in 1929 to 12,611 acres of Beans and 53,860 acres of Peas) the produce of which was cut or picked green.

(*e*) Exclusive of a certain area (amounting in 1929 to 1,495 acres) on which the crops were grown for the production of seed.

(*f*) Exclusive of a certain area (amounting in 1929 to 477 acres) on which the crops were grown for the production of seed.

TABLE III.—**Hops** :—*Total Acreage, Produce and Yield per Acre in* 1929 *and* 1928, *in each County of England in which* **Hops** *were grown ; and the Average Yield of the Ten Years,* 1919–1928.

Counties	Acreage		Total Produce		Yield per Acre		Average of the Ten Years 1919–28
	1929	1928	1929	1928	1929	1928	
	Acres	Acres	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.
TOTAL FOR ENGLAND	23,986	23,805	359,100	242,000	15·0	10·2	11·9
Kent: East . . .	3,311	3,280	57,000	41,000	17·2	12·6	13·4
Kent: Mid	4,900	4,947	77,000	58,000	15·8	11·6	13·6
Kent: Weald . . .	6,661	6,583	99,000	63,000	14·8	9·6	12·0
Kent: Total, Kent .	14,872	14,810	233,000	162,000	15·7	10·9	12·8
Hampshire	1,012	987	17,000	12,500	16·7	12·7	11·1
Surrey	161	158	1,900	1,800	12·0	11·5	11·3
Sussex	2,139	2,147	36,000	22,000	16·8	10·1	11·7
Hereford	3,855	3,779	50,000	30,000	12·9	8·2	9·6
Worcester	1,818	1,794	20,000	12,700	11·2	7·1	9·9
Other Counties * . .	129	130	1,200	1,000	9·4	7·6	8·3

* Salop, Gloucester and Berkshire.

TABLE IV.—*Average* **Prices of British Corn** *per cwt.* (*of* 112 *Imperial Standard lbs.*)[1] *in England and Wales, as ascertained under the Corn Returns Act,* 1882, *and the Corn Sales Act,* 1921, *in each week of the Year* 1929.

1929 Received in the Week Ended	Wheat	Barley	Oats
	s. d.	s. d.	s. d.
January 5	9 5	9 11	9 1
" 12	9 6	10 1	9 1
" 19	9 6	10 3	9 3
" 26	9 8	10 3	9 5
February 2	9 10	10 4	9 7
" 9	9 10	10 5	9 9
" 16	9 9	10 3	9 9
" 23	9 9	10 4	9 9
March 2	9 9	10 4	9 8
" 9	9 9	10 3	9 7
" 16	9 8	10 2	9 8
" 23	9 9	10 2	9 8
" 30	9 9	10 3	9 9
April 6	9 9	10 1	9 8
" 13	9 10	10 3	9 9
" 20	9 10	10 2	9 9
" 27	9 11	10 0	9 9
May 4	9 11	10 1	9 10
" 11	9 11	10 0	9 10
" 18	10 0	10 4	9 9
" 25	9 10	10 7	9 8

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[1] Section 8 of the Corn Returns Act, 1882, as amended by Section (2) of the Corn Sales Act, 1921, provides that in the weekly summary of quantities and prices, each sort of British Corn shall be computed with reference to the hundredweight of one hundred and twelve imperial standard pounds.

TABLE IV—*continued.*

1929 Received in the Week Ended		Wheat	Barley	Oats
		s. *d.*	*s.* *d.*	*s.* *d.*
June	1	9 9	9 9	9 9
„	8	9 7	10 0	9 6
„	15	9 7	10 3	9 6
„	22	9 7	9 7	9 5
„	29	9 8	9 11	9 3
July	6	9 10	9 4	9 5
„	13	10 0	10 0	9 4
„	20	10 6	9 10	9 6
„	27	11 3	10 1	9 7
August	3	12 0	9 11	9 5
„	10	12 0	9 10	9 7
„	17	12 3	10 0	9 5
„	24	11 5	9 10	8 10
„	31	10 11	10 1	8 4
September	7	10 3	10 1	8 0
„	14	9 11	11 5	7 11
„	21	9 9	10 10	7 11
„	28	9 8	10 0	7 11
October	5	9 6	10 6	7 10
„	12	9 4	10 4	7 10
„	19	9 5	10 3	7 10
„	26	9 7	10 2	7 9
November	2	9 7	9 11	7 9
„	9	9 5	9 8	7 7
„	16	9 6	9 5	7 5
„	23	9 3	9 2	7 3
„	30	9 3	8 11	7 3
December	7	9 4	8 11	7 3
„	14	9 6	8 11	7 3
„	21	9 6	8 10	7 2
„	28	9 6	8 8	7 0
Average for the year		9 10	9 11	8 10

TABLE V.—**Annual Average Prices** *per cwt.* (*of* 112 *Imperial Standard lbs.*) *of* **British Wheat, Barley** *and* **Oats,** *in England and Wales, in each year from* 1919 *to* 1929, *as ascertained under the Corn Returns Act,* 1882, *and the Corn Sales Act,* 1921.

Year	Annual Average Price per cwt.		
	Wheat	Barley	Oats
	s. *d.*	*s.* *d.*	*s.* *d.*
1919	17 0	21 2	18 9
1920	18 10	25 0	20 5
1921	16 8	14 7	12 3
1922	11 2	11 2	10 5
1923	9 10	9 5	9 7
1924	11 6	13 1	9 9
1925	12 2	11 9	9 9
1926	12 5	10 4	9 0
1927	11 6	11 9	9 1
1928	10 0	11 0	10 5
1929	9 10	9 11	8 10

TABLE VI.—Monthly *Average* Prices *of* Fat Stock *and* Milking Cows *in England and Wales during the Year* 1929.

Description	Quality	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
		Per cwt. live weight												
		s. d.	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*
FAT CATTLE:														
Shorthorns	1	52 3	52 7	52 8	53 11	55 1	54 4	51 8	51 4	50 2	49 9	50 9	53 3	52 4
	2	45 7	45 11	46 2	47 0	48 6	48 3	45 10	45 6	44 3	43 3	43 8	45 10	45 10
Herefords[1]	1	51 3	51 8	52 3	54 5	54 10	54 7	52 9	51 8	51 1	50 4	51 7	53 7	52 6
	2	46 8	47 5	47 7	49 2	50 5	49 11	49 3	48 4	47 2	45 0	45 9	47 7	47 10
Devons[1] .	1	56 2	56 1	55 8	57 9	58 7	58 10	56 1	55 3	54 8	54 4	55 2	57 11	56 4
	2	50 3	48 10	49 9	52 9	52 2	52 0	49 1	48 5	49 0	48 4	49 0	51 10	50 1
Fat Cows .	1	39 9	39 11	40 1	40 11	41 9	41 5	39 5	38 9	37 9	37 1	38 0	40 1	39 7
	2	32 0	32 1	31 11	32 9	33 9	33 4	31 8	31 1	30 5	29 7	30 0	31 5	31 8
		Per head												
MILKING COWS:		£ *s.*	£ *s.*	£ *s.*	£ *s.*	£ *s.*	£ *s.*	£ *s.*	£ *s.*	£ *s.*	£ *s.*	£ *s.*	£ *s.*	£ *s.*
Shorthorns in Milk .	1	30 15	30 17	29 1	28 18	29 14	28 18	29 19	30 13	31 10	31 18	32 2	31 16	30 10
	2	24 15	24 15	23 13	23 6	23 16	23 6	24 1	24 13	25 1	25 2	25 5	25 3	24 8
Calvers .	1	27 10	28 0	26 12	26 9	27 4	27 11	27 19	27 3	27 13	27 12	28 0	27 16	27 9
	2	22 13	22 14	22 1	22 6	22 16	22 16	23 0	23 3	23 5	23 1	23 3	23 0	22 16
		Per lb.												
		d.	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*
VEAL CALVES	1	13¾	14	14	14¼	14½	14	13	13	13	12¾	13	13½	13½
	2	11¾	12	12¼	12¼	12½	12	11¼	11½	11¼	10¾	11	11¼	11½
FAT SHEEP:														
Downs .	1	14¾	14¾	14¾	14½	14¼	13¾	13½	13½	13½	13½	14	14½	14
	2	12¾	13	12¾	12¾	12¼	12	11¾	12	11¾	11¾	12	12¾	12¼
Longwools	1	13½	13¾	14	13	12½	12¼	11¾	12	12	12	12½	13	12¾
	2	12	12	12¼	11½	11¼	10¾	10½	10¾	10½	10¾	11	11½	11¼
Crossbreds	1	14¾	14¾	14¾	14¼	14	13¼	13	13	13	13	13¼	14	13¾
	2	12¾	13	13	12¾	12¼	11¾	11½	11¼	11¼	11½	11¼	12¼	12
		Per score dead weight[2]												
		s. d.	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*
FAT PIGS:														
Bacon Pigs	1	14 11	16 1	17 5	18 8	19 5	18 0	17 7	17 9	16 11	16 7	16 9	17 9	17 3
	2	13 4	14 8	15 10	17 3	17 10	16 7	16 2	16 5	15 7	15 4	15 7	16 5	15 11
Porkers .	1	17 3	18 4	19 2	19 11	20 3	18 4	18 1	18 4	18 1	19 1	20 0	20 11	18 11
	2	15 9	16 11	17 7	18 5	18 8	16 11	16 8	16 11	16 9	17 9	18 7	19 5	17 6

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[1] The prices of Herefords and Devons are based on a comparatively small number of quotations.

[2] As from January, 1930, the Ministry adopted the score basis for fat pig prices in place of the 14 lb. stone previously used—a step which was in accordance with the recommendation of the Pig Industry Council that a uniform method of quoting should be encouraged throughout the trade. The change has accordingly been made in this Table.

TABLE VII.—Yearly *Average* Prices *of* Fat Stock *and* Milking Cows *in England and Wales during the Years* 1920–1929.

Description	Quality	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929
		Per cwt. live weight [3]									
		s. d.	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*
FAT CATTLE:											
Shorthorns	1	95 11	88 0	64 5	59 10	60 0	59 11	55 10	50 6	55 0	52 4
	2	89 1	78 2	56 6	53 0	53 3	52 2	48 4	43 8	47 9	45 10
Herefords [1]	1	95 8	88 4	64 1	59 11	59 8	60 5	55 2	50 6	54 5	52 6
	2	89 2	78 8	57 0	53 6	53 1	53 5	48 7	45 8	49 7	47 10
Devons [1]	1	94 3	86 10	63 3	58 7	58 4	58 10	55 8	52 9	56 8	56 4
	2	86 9	76 5	53 1	50 8	49 5	51 11	45 9	47 6	49 7	50 1
Fat Cows	1	88 0	74 1	49 6	46 0	45 3	45 10	40 8	36 10	40 10	39 7
	2	79 11	64 6	42 1	39 0	38 1	38 2	33 0	29 5	33 0	31 8
		Per head									
		£ *s.*	£ *s.*	£ *s.*	£ *s.*	£ *s.*	£ *s.*	£ *s.*	£ *s.*	£ *s.*	£ *s.*
MILKING COWS:											
Shorthorns in Milk	1	61 6	54 13	39 3	36 6	36 9	34 9	31 19	29 1	30 8	30 10
	2	48 9	41 19	30 8	28 8	28 19	26 15	25 0	23 3	24 15	24 8
Calvers	1	58 1	50 19	35 15	33 8	33 2	32 6	29 19	27 3	27 9	27 9
	2	45 7	40 5	28 12	26 5	27 7	25 14	24 1	22 12	23 4	22 16
		Per lb.									
		d.	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*
VEAL CALVES	1	21	18	14¼	13¾	13¾	13¾	13¼	13	13⅛	13⅛
	2	18	16¼	11¾	11⅛	11½	11⅛	11¼	11	11⅛	11⅛
FAT SHEEP:											
Downs	1	23	19½	18½	16¾	16¾	16¾	14	13½	14¾	14
	2	21¾	17	15¾	14¾	14¾	14¾	12¼	11⅛	12⅜	12¼
Longwools	1	22¼	18	16¾	15⅛	15¾	15¼	13	12	13⅛	12⅝
	2	21¼	15⅛	14¼	13¼	13¼	12¾	11¼	10¾	12	11¼
Crossbreds	1	22¾	19¾	17¾	16¾	16¼	16⅛	13¾	13¼	14¾	13⅝
	2	21⅛	17¼	15¼	14⅛	14⅛	14¼	11¾	11¼	12¼	12
		Per score dead weight [2]									
		s. d.	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*
FAT PIGS:											
Bacon Pigs	1	35 3	24 3	20 0	17 6	15 0	17 10	19 6	15 10	14 11	17 3
	2	33 3	22 0	18 0	15 9	13 4	16 4	18 0	14 5	13 5	15 11
Porkers	1	36 11	26 11	22 3	19 9	16 4	18 11	21 1	18 0	16 2	18 11
	2	34 6	24 9	20 4	18 1	14 9	17 5	19 6	16 5	14 8	17 6

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[1] The prices of Herefords and Devons are based on a comparatively small number of quotations.

[2] See footnote to Table VI. Prices are given per score in order to secure uniformity.

[3] In previous volumes the prices per stone dead weight have been given, but here again it is desirable to follow the Ministry's practice of quoting per cwt. live weight.

TABLE VIII.—*Quantities and Declared Values of* **Imports** *of the principal* **Agricultural Commodities** *into Great Britain and Northern Ireland in* 1928 *and* 1929, *with the Average of the Imports for the Years* 1924 *to* 1926.

Commodity	Quantities			Declared Values		
	Annual Average, 1924–1926	1928*	1929†	Annual Average, 1924–1926	1928*	1929†
Grain and Meal.	Tons	Tons	Tons	£	£	£
Wheat	5,175,512	5,178,874	5,588,470	66,580,242	57,633,019	57,784,498
Wheat-Meal and Flour .	513,659	446,342	485,172	8,462,738	6,265,930	6,333,433
Barley	816,764	648,767	598,909	8,604,999	6,685,233	5,517,689
Oats	438,687	372,353	353,197	3,685,101	3,737,107	2,800,161
Oatmeal (including Groats and Rolled Oats) . .	40,530	34,889	34,070	817,777	796,314	758,767
Peas (not fresh) . . .	75,574	85,123	84,051	1,535,989	1,907,740	1,627,232
Beans (other than Haricot)	43,456	58,049	75,917‡	617,973	718,390	1,092,582
Maize	1,617,270	1,650,795	1,745,579	13,993,413	14,775,878	15,283,057
Maize-Meal and Flour .	104,825	144,131	143,885	1,026,474	1,390,195	1,406,682
Meat.						
Beef, Fresh, Chilled and Frozen	637,551	612,843	585,787	29,746,655	31,033,298	31,412,005
Other Descriptions (including tinned and extracts)	58,793	53,336	47,553	5,160,536	5,322,408	4,733,326
Mutton and Lamb . .	271,488	286,754	288,357	20,359,769	19,799,408	19,483,457
Pork (including Bacon and Hams) . . .	509,866	529,778	505,458	54,298,837	48,624,430	53,069,279
Unenumerated (including Rabbits) §	38,293	27,383	28,934	2,444,323	1,477,481	1,630,395
Total Dead Meat . .	1,515,991	1,510,094	1,456,089	112,010,120	106,257,025	110,328,462
Butter	282,655	305,649	320,331	50,378,407	52,044,506	54,784,813
Cheese	150,004	150,262	149,726	14,396,618	14,997,173	13,914,639
Milk, Condensed . . .	114,139	133,672	132,586	5,223,115	5,249,581	4,786,376
	Gt. Hunds.	Gt. Hunds.	Gt. Hunds.			
Eggs in Shell	21,423,337	26,466,490	24,961,808	15,809,973	17,766,214	17,855,625

* Revised figures. † Subject to revision. ‡ Including Haricots.

§ Including "Veal" and "Other Descriptions of Pork (Hearts, Livers and Kidneys, etc.)."

IMPORTS.

Table VIII gives the quantities and declared values of imports of the principal agricultural commodities into Great Britain and Northern Ireland in 1928 and 1929. In previous reviews in this *Journal*, the pre-war annual average imports into the United Kingdom as a whole were included in the table for purposes of comparison, although in the case of certain commodities this was admittedly of little practical utility, in view of the post-war change in the status of Ireland. On this occasion, therefore, the 1924–26 average for Great Britain and Northern Ireland has been substituted for the pre-war United Kingdom figure, thus giving a directly comparable series of statistics.

Grain and Meal.

Arrivals of *Wheat* last year showed the relatively large increase of 409,000 tons (8 per cent.) to 5,588,000 tons, this total comparing with 5,522,000 tons in 1927, and an average of 5,179,000 tons during 1924–26. Argentina almost doubled her 1928 consignment, sending 2,269,000 tons. Canadian supplies, however, were appreciably smaller at 1,360,000 tons, while the United States of America sent 1,113,000 tons. Less wheat came from British India but more from Australia. In spite of the heavier imports, however, the total declared value (£57,784,000) was little more than in the preceding year, the average value per ton coming out at only slightly over £10, as compared with £11 in 1928, £12 in 1927 and £13 in 1926.

Roughly 9 per cent. more *Flour* was imported during the year under review than in the preceding twelve months, the total amounting to 485,000 tons. Canada consigned 186,000 tons as against 244,000 tons in 1928, while arrivals from the Argentine also were somewhat reduced. The United States, however, supplied 31,000, and France 23,000 more tons, imports from Australia being 18,000 tons greater. As with wheat, the rise in values was comparatively small, the total being £6,333,000 as against £6,266,000 in 1928 and £8,463,000 during 1924–26.

Receipts of *Barley* were again smaller, totalling 599,000 tons as against 649,000 tons in 1928, *i.e.*, a drop of 50,000 tons, or 8 per cent. The latest figure is the lowest recorded in any post-war year except 1926, and represents a decline of over 25 per cent. on the average of 1924–26. The United States consigned only 218,000 tons as compared with 240,000 tons in the preceding twelve months, while Canada's quota dropped from 103,000 tons to 69,000 tons. Roumania, on the other hand, sent 37,000 tons more. The very low levels at which prices stood caused the total declared values to fall by as much as 17 per cent., the average value per ton amounting to less than £8 as compared with £10 5*s*. in 1928 and £11 in 1927.

Imports of *Oats* were 19,000 tons (5 per cent.) smaller on the year, although the reductions took place entirely in the first six months, the quantities arriving during the latter half of the year being larger than at the corresponding period a year earlier. Supplies from the United States, Canada and the Irish Free State were appreciably reduced, but Argentina sent 94,000 tons as against 82,000 tons. The total declared value dropped by 25 per cent. to £2,800,000, and the average tonnage value by about 20 per cent. to £8.

Arrivals of *Maize*, at 1,746,000 tons, were approximately 6 per cent. larger than in 1928, the increase being made up chiefly by the extra 105,000 tons received from the United States, Argentina again consigning rather more than 1,200,000 tons. Values were over £500,000 up on the year, the average figure per ton coming out at about £8 15*s.*

Meat.

During the period under review, 1,456,000 tons of meat were imported into Great Britain and Northern Ireland or 54,000 tons (3·6 per cent.) less than in 1928 and 77,000 tons (5 per cent.) below the 1927 total.

Arrivals of *Beef* amounted to 586,000 tons, a drop of 27,000 tons on the year, and were the lowest recorded since 1922. The Argentine despatched 408,000 tons of chilled beef as against 432,000 tons, but rather more frozen beef was sent. From other sources, however, supplies of frozen beef showed appreciable reductions, Australia's quota falling from 51,000 tons to 46,000 tons, New Zealand's from 23,000 tons to 6,000 tons and Uruguay's from 9,000 tons to 7,500 tons. As was the case in 1928, however, smaller supplies were accompanied by higher prices, the total declared value of imports rising by close on £380,000 to £31,412,000.

Imports of frozen *Mutton and Lamb* were much the same as in 1928, viz. 288,000 tons, but some 17,000 tons in excess of the average of 1924–26. New Zealand sent 137,000 tons as compared with 140,000 tons, and Argentina 77,000 tons against 76,000 tons. The declared value fell by almost £316,000 (1·6 per cent.) to £19,483,000.

Less *Bacon* was imported last year, the 414,000 tons received representing a decline of 29,000 tons, or 6½ per cent. This reduction was spread fairly generally over the exporting countries, Danish supplies being 20,000 tons less at 249,000 tons. The United States, however, sent a little more than in 1928. Arrivals of *Hams* rose on the year by 4,000 tons to 51,000 tons, about 80 per cent. of the consignments emanating from the United States. Receipts of *Fresh Pork* from the Irish Free State amounted to 15,000 tons, or 4,000 tons (20 per cent.) less than during the preceding twelve months.

Dairy Produce.

Over 14,500 tons (5 per cent.) more *Butter* were imported than in 1928, and as compared with the average of 1924–26, last year's figure of 320,300 tons was 37,700 tons (13 per cent.) greater. Arrivals from Denmark, at 110,000 tons, were 9,000 tons larger, while increased quantities also came from Finland and Sweden. New Zealand's quota increased from 61,000 tons in 1928 to 66,000 tons, but Australian supplies dropped from 44,000 tons to 38,000 tons. The total declared value of imports rose by over £2½ million to £54,785,000.

Receipts of *Cheese* showed little change at 149,700 tons. Consignments from New Zealand increased by 12,000 tons to 90,000 tons, but Canada sent 10,000 tons less, while smaller quantities were received also from most other sources. Although the decline in imports was only of trifling dimensions, the declared value dropped by over £1 million to £13,915,000.

Condensed Milk as a whole was imported in rather smaller quantities, a slight increase in arrivals of the sweetened separated variety being more than counterbalanced by reductions in the other kinds.

For the first time since the war, imports of *Eggs* (in shell) showed a decline, although in point of fact the reductions were confined mainly to certain early months of the year, receipts during the last half of 1929 being some 5 per cent. in excess of those recorded at the corresponding period of 1928. Taking the year as a whole, arrivals totalled 24,962,000 great hundreds as compared with 26,466,000 great hundreds in 1928 and an average of 21,423,000 great hundreds during 1924–26. As regards individual sources of supply, Denmark sent 5,574,000 great hundreds as against 5,330,000 great hundreds, the Irish Free State 5,015,000 as against 5,177,000, the Netherlands 3,162,000 as against 2,725,000, Belgium 2,962,000 as against 2,908,000 and Poland 2,385,000 as against 2,562,000. The heaviest reductions occurred in French (868,000 great hundreds as against 1,659,000) and Russian eggs (608,000 as against 1,767,000). In spite of the drop in total imports, declared values rose by nearly £90,000 to £17,856,000.

Miscellaneous Agricultural Produce.

As regards *Live Animals for Food*, the number of cattle imported was 750,262, all except 692 of which came from Ireland. The corresponding total for 1928 was 724,917. Rather fewer sheep arrived, the 584,631 recorded comparing with 591,691 a year earlier. Receipts of pigs also were slightly smaller at 311,102.

Arrivals of *Potatoes*, at 293,000 tons, were as much as 183,000 tons (nearly 40 per cent.) below the 1928 level, but about the same as in 1927. German supplies dropped from 41,000 tons to a mere 200 tons, while those from Holland declined by 31,000 tons to 22,000 tons. France sent 125,000 tons as against 193,000 tons in 1928, but consignments from Spain (52,000 tons) and the Channel Islands (64,000 tons) were rather heavier on the year.

Total Imports.

While it is impracticable to attempt to furnish in this short review any precise valuation of the total agricultural imports into Great Britain and Northern Ireland, the following figures provide a reasonably accurate indication of the general distribution of costs in 1929. Roughly, £296 million was spent on importing the principal agricultural commodities, of which £119 million was paid for meat (including £16 million for live animals), £88 million for grain and meal, £87 million for dairy produce and £3 million for potatoes. Of the total expenditure, £176 million (60 per cent.) was spent on produce from foreign countries, £74 million (25 per cent.) on produce from British Overseas Dominions and £29 million (10 per cent.) on Irish Free State produce. The remaining £17 million represents the value of imports from countries not separately distinguished in the Trade Returns.

R. E. STANLEY.

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NOTES, COMMUNICATIONS AND REVIEWS.

Pig Industry Council.—In May, 1928, the Minister of Agriculture appointed a Pig Industry Council. The Council consists partly of members nominated by the Minister of Agriculture and Fisheries and partly of members nominated by the National Farmers' Union, the Royal Agricultural Society of England, the National Federation of Meat Traders' Associations, the Food Manufacturers' Federation, the Pig Breed Societies and the London Central Markets Tenants' Association. The Chairman of the Council is Mr. Ernest R. Debenham. The Council's terms of reference as laid down by the Minister are as follows:

> "To consider the circumstances affecting pig production in England and Wales, with special reference to methods of marketing, and to the requirements of the home market, and to make recommendations from time to time with the object of increasing the home production both of pork and bacon."

The Council has now made two interim reports. These reports have been issued by the Minister as Marketing Leaflets Nos. 15 and 16. The principal recommendation which the Council has made has been with reference to the breeding of commercial pigs. For this purpose the Council has recommended the use by farmers of the fine boned type of Large White boar. There are further recommendations in connection with marketing and for the establishment of Litter Testing Stations. Criticism of the reports has been directed mainly against the recommendation of the Large White sire for the production of all classes of commercial pigs. There is apparently some feeling that for the production of the smaller classes of pork the Middle White or

Berkshire boar might be more suitable than the Large White. It may be convenient here to define the markets for commercial pigs.

1. Fresh Pork—
    - (*a*) London Pork 65–80 lb. dead weight.
    - (*b*) Midland, say 80–120 lb. dead weight.
    - (*c*) Heavy—any weight.
2. Hams.
3. Midland Cut Bacon.
4. Wiltshire Cut Bacon.

Of those markets, that for Wiltshire Cut Bacon is of by far the greatest money value. The pork and ham markets each consume about one-fifth of our total supplies of pig meat.

The pork market is supplied by home produced, Irish imported, and some 10,000 tons of frozen pork imported annually. Normally the pork market is pretty fully supplied and is not capable of great expansion. Meantime, however, it is being much under-supplied with the result that very high prices are current. Any great expansion of pork production at home could only be made at the expense of a reduction in imports of either Irish or frozen pork. If we are to cut out Irish pork we can only do so by producing a better article at no increase of cost or at reduced cost.

The Wiltshire Bacon Market is most capable of taking the output of extended pig-keeping in this country.

In 1928 seven representative factories received pig supplies equivalent to only 55 per cent. of their capacity throughout the year. There is a risk of overlooking the relative importance of the bacon and pork markets—partly because sellers have been used to rather higher and therefore more attractive prices for pork than for bacon. Nevertheless, we must bear in mind the distinct limitations of the pork market. An important point, to which sufficient attention would hardly appear to be given by producers, is the changing taste in favour of leaner meat, both bacon and pork, on the part of the consuming public. If the consumption of British-produced pig meat is to be increased, it is essential that uniform bacon and uniform pork of the lean fleshed type should be produced.

Enquiries have shown that the breeds of sows numerically strongest, kept by farmers throughout the country, are the Large Black, Saddleback, Berkshire, and the Middle White in addition to the Large White. There is no reason why all those sows should not be kept, but we must bear in mind that against the first four mentioned, there can be levelled the criticism of either colour or fat carcasses, or heavy fore-ends, or lack of length, *i.e.*, middle. The only breed of boar which can be generally recommended to correct these prevailing faults in the offspring is the Large White. The first cross produced in this way is practically white in colour, normally fairly long in the body, lean fleshed and with a light fore-end. Standard quality and uniformity are essential in to-day's markets. The production of bacon pigs of the standard required by the bacon factories cannot fail to have a helpful effect in toning up the market.

With regard to Litter Testing Stations, there seems to be some reason to believe that they might ultimately have a similar effect on the breeding of commercial pigs that Egg Laying Trials have had in grading up utility poultry.

The breeding of first crosses would appear to be the soundest policy for the farmer. Generally speaking crossbred litters are larger, more vigorous and thriftier than purebreds.

The extension of pig-keeping throughout the country would have a powerful indirect effect on agriculture by increasing employment and by providing manure for an improved standard of farming.

W. A. STEWART.

Sheep Trials in Wiltshire.—A unique work has been undertaken by the sheep farmers of Wiltshire, the results of which may well prove to be of value to flockmasters in other parts of the country. Wiltshire is one of those counties with a large proportion of poor arable land which have been very hard hit in the difficult years since the war. It used to pay to fold sheep on root crops because they left so much good in the ground for the succeeding corn crops. In pre-war days the arable sheep system was very sound economically. Now circumstances have changed, and it is no longer possible to grow corn at a profit, except on the best land. This has meant a wholesale change over to grassland in Wiltshire and the replacement of Hampshire Down flocks by grassland types. The shepherd and his dog have taken the place of the hurdles and the plough teams.

Economic circumstances had to be faced, and there is no question that the farmers of Wiltshire have acted rightly in their own interests. But the change over brought up a crop of problems outside their experience. Grass sheep seemed the obvious solution of their difficulties. But what breeds or which crosses should they use ? In the past ten years each farmer has answered this question in his own way. To-day in Wiltshire one finds an amazing medley of types. There are mountain peckers like the Cheviot, the Exmoor and the Black-face ; there are pasture sheep like the Dorset Down, the Ryeland, the half-bred Border Leicester-Cheviot, and the Kerry Hill. And these ewes have been crossed with Hampshire Down, Suffolk, Ryeland and Oxford Down rams. The result is chaos at the summer fairs, when the lambs come to be sold to the Midlands and Eastern Counties for fattening. Buyers like uniform lots, and it became evident that the trade for Wiltshire's lambs was prejudiced by the medley of breeds.

This idea was uppermost in the minds of the farmers and shepherds who met in Marlborough one evening in December 1928 for their Christmas Supper. There was a long discussion about breeds and management, and the Christmas fare bringing inspiration, it was ultimately decided to start some sheep trials on the Marlborough Downs to try and find out by comparison which breed or cross of grassland sheep would do best through the summer and produce the most saleable lambs at Marlborough Fair. Several farmers came forward with offers of ewes, mated to various rams, which they were willing to put into a trial. And Col. Stibbard, the officer commanding the War Office's training centre at Chiseldon, kindly offered the use of Herdswick Down from May until August. Thus the 1929 trials started. It will be of interest at this point to give the results which were obtained from the first year's trial.

LIVE WEIGHT GAINS OF LAMBS.

	Av. Live Weight May 18	Av. Gain Live Weight first 26 days	Av. Gain Live Weight second 35 days	Av. Gain Live Weight third 28 days	Total Gain 89 days	Av. Live Weight Aug. 15	Value at Marlborough Fair Aug. 22
	lb.	lb.	lb.	lb.	lb.	lb.	s. d.
Ryeland Ram × Cheviot Ewe	33⅘	13	10⅔	10	33⅔	67⅓	44 0
Merino Romney × Exmoor Horn . .	30⅕	8⅔	11⅔	7⅔	27⅔	58⅓	36 0
Hampshire × Imp. Welsh	35	11⅘	12⅔	12	36½	71½	44 0
Suffolk × Cheviot . .	33 9/14	13½	17⅓	12⅓	43⅓	77⅓	41 0
Suffolk × Exmoor Horn	37⅖	13½	15⅔	11⅓	40½	78	47 0
Hampshire × Kerry Hill	38	19½	14⅔	10⅔	44⅔	82⅗	48 0
Ryeland × Hampshire .	42 11/15	16¼	14⅗	7½	38⅓	80	47 0
Suffolk × Border Leicester-Cheviot	37 11/15	19¾	15½	10⅓	45½	83½	47 0

Note.—Each lot consisted of 15 single lambs.

In looking at these figures it is well to remember that the summer of 1929 was a time of exceptional drought in the southern counties. In a normal season with more grass about, the results might have been different. It must also be borne in mind that some of the ewes came to the trial in better condition and with more milk than others. All were full-mouthed ewes, and all lambs were singles. The committee responsible for the trials naturally has some diffidence in publishing these figures, for it is felt, quite rightly, that the results of one year's experiment may be misleading. But so much interest has been taken in these trials that it was decided to make a brief statement of these results at the Shepherds' Supper in Marlborough last December.

The trials are to be continued this summer with the assistance of the Wiltshire County Council. One of their officers, Mr. H. W. Tomlinson, gave the trials committee such invaluable assistance in 1929 that it was decided to invite the co-operation, financial and secretarial, of the county council in future trials. Now that the scheme is so well started, the sheep farmers of Wiltshire are looking forward to a series of results which will give them reliable information about grass sheep. It may be that other counties will feel inspired to follow this example of self-help.

ANTHONY HURD.

Breeding and Management of Sheep.—The Farmers' Club contrive to discuss a subject of special importance to stock-owners at the December meeting. In the Smithfield week animal husbandry is the outstanding topic, and it is appropriate that questions relating to it in some form should be considered by farmers assembled for the great Fat Stock Show.

The high standard of December papers was abundantly maintained in 1929 by Professor R. G. White of Bangor, when he read a carefully prepared review of the sheep industry in Great Britain. The title of the paper was "Recent Developments in the Breeding and Management of Sheep in Great Britain," and Mr. White dealt with this comprehensive subject with understanding and ability. The excellence of the paper was generally acknowledged at the time, but it was of more than temporary value and significance; it was, indeed, one of the clearest expositions of the involved nature of pastoral farming that has ever been presented, at all events in the light of modern developments and requirements. The reader of the paper proved himself a sound authority on the great business of sheep farming, and those interested in the pursuit and uncertain as to the reasons for variations in breeds and practices, would do well to procure a copy of the paper from the Farmers' Club (2 Whitehall Court, S.W.1, 2*s.* 6*d.*), for there is nothing in print superior to it in the way it balances the different aspects and influences affecting procedure.

The position of sheep on arable land received becoming attention. The reduction in the number of sheep in the country appears to be explained by the fewer or smaller flocks maintained on cultivated land. The diminution is entirely in England, and this fact alone suggests that it is the historic association of sheep and corn on the light lands that has been giving way before the forces of economic alterations. The diminution in the types of sheep that have been wont to occupy the poorer cultivated lands, was shown by Professor White to be significantly pronounced and consistent. In practically all the arable areas the number of sheep has decreased, and although the production and selling of early lamb—before the returns are made on June 4—would affect this class of stock more than the mountain breeds, the very considerable increase in the early lamb business could not account for the whole of the reduction.

An interesting point in Mr. White's instructive paper is his suggested reason—well supported by statistical evidence—for the falling off in the total of sheep kept on arable land. Flocks have not diminished or vanished because of depreciation in the value of sheep, but on account of the lower value of cereals and the higher cost of labour. Of the three dominating factors —sheep, corn and labour—sheep alone have maintained their ground, and hence the extensive discontinuance in many districts, and the contraction in others, of a system of farming peculiarly English in idea and efficiency of management. Professor White believes that if the growing of cereals were again to become profitable the old order would be restored to the advantage of the country and the industry; failing improvement in the markets for corn it is to be inferred that the future of sheep—still a great position—lies in the crossing of breeds and the raising of commercial stock on the lines, but possibly more orderly lines, already largely developed throughout the intermediate areas.

The Reclamation of Exmoor Forest.—Mr. C. S. Orwin's book (Oxford University Press, London: Humphrey Milford) is an authentic history of estate and farming development in a part of the country noted for various characteristics. The great forest, or moorland, area of North Devon is associated in the popular mind chiefly with grandeur of scenery, and ponies and sheep of local origin; the proportion of systematic farming scattered throughout the wide expanse, is looked upon merely as an appropriate variant to the natural conditions of the district. But Exmoor is much more than a great national playground. Thanks to the efforts of nineteenth-century improvers it makes substantial contributions to the agricultural wealth of the nation.

Through the medium of this exceedingly pleasant volume Mr. Orwin lets light of a timely and suggestive nature into the fastnesses of the historic forest. There remain vast expanses of land on Exmoor still unreclaimed and probably unreclaimable, but the author recounts with sympathetic understanding the work of the Knights and others owning and occupying cultivable portions of the moor. An interesting genealogical account of the Knight family leads up to details of the schemes devised for reclaiming the forest as initiated by John Knight and continued by Frederic Winn Knight and others. It is an engrossing story of foresight, enterprise and achievement. Others besides lovers of Exmoor will read Mr. Orwin's book with benefit and pleasure mixed in suitable proportions. The author employs his fine descriptive pen to advantage in delineating the natural features of the Forest, and brings his knowledge of farming to bear in recounting the methods adopted for improving the agricultural resources of the open spaces embraced within the area described.

Particular interest centres in the transforming work of Robert Smith, a member of a well-known South Lincolnshire family, to whom was entrusted, by Frederic Knight, the task of introducing and developing new farming systems. Smith entered upon his duties in 1848, and when he relinquished his office he was succeeded by Frederick Lovebond Smyth, a tenant under Earl Fortescue, who continued the progressive methods already begun with creditable results. The history of Exmoor farming here recounted is educative as well as of absorbing interest. The familiar names that pass under review indicate the scope and importance of the movement, while the blending of local and distant methods of procedure may be studied with advantage even now, when means for transport are better and there are fewer impediments to the adoption of changes in tillages, crops and stock, than were encountered three-quarters of a century ago.

Robert Smith had won a reputation as farmer and pioneer of distinction before he moved from Burley, Oakham, to Devon. He was already a member of the Council of the Royal Agricultural Society and had contributed articles to the Society's Journal which had marked him as an authority of high standing, and as possessed of a "scientific mind, a philosophic outlook, and a wide range of knowledge on matters pertaining to his craft." He was in particular an authority on irrigation, and Philip Pusey went to see his Exmoor water-meadows. But we are assured that 'above all, he was a farmer' and there is confirmatory and exceptional proof of this in the quoted reference to him that "His writings are the results of his experience, instead of his farming being the result of other people's writings."

While Robert Smith, collaborating with the owner, Frederic Knight, organised the work of improving Exmoor, his efforts were suitably supplemented by Gerard Spooner, a Scotsman, whose introduction of Northern shepherds, methods of shepherding and breeds of sheep, appears to have paved the way for lasting changes and improvements. Mr. Orwin has found in Exmoor a subject exceedingly congenial to him, and his readers will enjoy the benefit of this happy relationship of author and subject. The volume is freely and tastefully illustrated.

The Crop-Grower's Companion.—Mr. John Porter is known in his county of Bucks as a sound and safe adviser in matters pertaining to the management of both land and live stock, and in this volume—*The Crop-Grower's Companion*; Gurney & Jackson, London,—he has produced a work that will be convenient and helpful to farmers. The most experienced farmer does not always have at hand the necessary details concerning the growing of all crops, and this book, of handy size and clearly written, will prove a valuable and trustworthy guide. Mr. Porter keeps in close touch with researches and discoveries in things affecting farming, but he is careful to keep in mind also the difficulties of reconciling practice and theory, and his understanding of the subject saves him from disregarding the aspect of the farmer in these matters. The title of the book fits it admirably, and it is unlikely that anyone will have reason to regret having accepted it for what it is described to be.

The **Year Book** published by the National Farmers' Union (45 Bedford Square, London, W.C.1) is unique in many features. Most annuals appeal in a particular sense to some class of readers, but this volume, extending to 560 pages, is so comprehensive that it has prominent claims upon all classes associated in any respect with the land. It contains interesting articles by competent writers, but it is remarkable chiefly for the amount of reference matter it supplies on questions that constantly crop up for farmer, landowner and worker. As a record of the year's proceedings it is very valuable, and it is correspondingly helpful as a guide on points that often have to be settled offhand, and that are better adjusted by personal arrangement.

The **Proceedings of Conferences** organised by the Agricultural Economics Society (Mr. E. Thomas, University of Reading) will be appreciated by students of economics, especially those concentrating on the agricultural field. The report includes several papers of importance by recognised authorities on this branch of research.

THE HARROGATE SHOW, 1929.

THE Society's Show at Harrogate in 1929 was the first Royal Show held in that town, and it may be interesting to know how the invitation to hold the Show there came about, because on very few occasions has the Royal Show been held in an inland watering-place or Spa like Harrogate.

Year	Place of Meeting	President	No. of Stands in Implement &c. Yard	Entries of Live Stock	No. of Persons admitted	+ = Profit − = Loss
						£
1848	York .	2nd Earl of Yarborough	158	718	No record	— 2,826
1861	Leeds .	3rd Earl of Powis .	358	1,027	145,738	+ 4,470
1873	Hull . .	3rd Earl Cathcart .	329	1,145	104,722	— 414
1883	York .	6th Duke of Richmond and Gordon	401	1,653	128,117	+ 5,190
1891	Doncaster	2nd Earl of Ravensworth	421	2,221	111,500	+ 104
1900	York .	H.R.H. The Prince of Wales	412	1,997[1]	87,511	— 3,465
1912	Doncaster	9th Lord Middleton	441	3,022[2]	90,139	— 1,232
1929	Harrogate	Viscount Lascelles, K.G.	431	3,403	124,017	+ 8,796

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[1] No Pigs. [2] Exhibition of Cattle, Sheep and Pigs prohibited.

After the Shows held in the south and south-west in 1926 and 1927, it had already been arranged that a visit should be paid to the Midlands, and it was thought that after the year 1928, when the Show was held at Nottingham, the north was the natural venue for 1929.

The County of Broadacres obviously suggested itself to the Council, and places like York and Doncaster, which had been visited by the Society in the past, were suggested.

Unfortunately, however, owing to the requirements of the Racecourse authorities at those two centres, the only vacant spaces, which were the Racecourses, could not be placed at the disposal of the Society during the period required for the erection of the showyard, stands, etc.

On hearing of this the Municipal Officials at Harrogate put forward a proposal that if a site could be found in their town, they would be prepared to receive a visit in the year 1929.

The wide open spaces of the "Stray" in the centre of the town were suggested as a possible site. A visit of inspection to the "Stray" proved that although difficulties were present, it was not impossible to hold a Royal Show on the land that could be made available.

When the Honorary Director had decided that the space could be utilised, the Mayor of Harrogate consulted the townspeople as to whether they would forgo their rights on the "Stray" for a year and allow it to be occupied by the Society as a site for the showyard. Differences of opinion naturally arose, but it was eventually decided by the majority that the

Society should be invited to hold its Annual Show at Harrogate in 1929.

Over 80 acres of the "Stray" was adapted as a showyard site, and it is safe to say that never on any occasion has the Society had a more pleasant show, or a more compact showyard. The site was in the very centre of the town, the transport arrangements were wellnigh perfect, and the approaches by rail and motor-car almost ideal.

Between the years 1848 and 1912, seven visits had been paid by the Royal Agricultural Society to Yorkshire, but the 1929 Show held at Harrogate will always stand out as one of the most successful shows held by the society, not only in Yorkshire, but in the country generally.

Particulars of the previous Royal Shows held in Yorkshire are given on opposite page for comparative purposes.

STATEMENT OF ENTRIES FOR THE 1929 SHOW, COMPARED WITH PREVIOUS YEARS.

Entries of Live Stock, Poultry and Produce.

	Harrogate, 1929	Nottingham, 1928	Newport, 1927	Reading, 1926	Chester, 1925	Leicester, 1924	Newcastle, 1923	Cambridge, 1922	Derby, 1921
Horses . . .	634 [1]	607 [1]	429 [1]	614 [1]	658 [1]	768 [1]	641 [1]	713 [1]	601 [1]
Cattle . . .	1,263 [1]	1,261 [1]	1,214 [1]	1,640 [1]	1,565 [1]	1,302 [1]	1,185 [1]	1,547 [1]	1,254 [1]
Goats . . .	92 [1]	61 [1]	40 [1]	67 [1]	56 [1]	60 [1]	68 [1]	61 [1]	68 [1]
Sheep . . .	723	591	524	724	711	633	728	715	788
Pigs . . .	691	833	664	986	932	1,212	1,048	1,164	902
Total . .	3,403	3,353	2,871	4,031	3,922	3,975	3,670	4,200	3,613
Poultry . .	943	1,036	887	1,111	970	1,157	1,189	1,205	1,219
Produce . .	363	365	350	356	612	300	436	247	322

[1] Exclusive of Double Entries.

Shedding in Implement Yard (in Feet).

Description of Shedding	Harrogate, 1929	Nottingham, 1928	Newport, 1927	Reading, 1926	Chester, 1925	Leicester, 1924	Newcastle, 1923	Cambridge, 1922	Derby, 1921
	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet	Feet
Ordinary . .	2,995	3,035	2,875	3,360	3,985	4,145	4,280	4,450	4,595
Machinery . .	4,170	5,466	3,855	4,090	3,380	3,685	4,230	4,240	5,560
Special . . . (Seeds, Fertilisers, ets.)	3,686	3,501	2,756	3,420	3,575	3,867	3,392	3,501	3,835
Total . . . (Exclusive of open ground space)	10,851	12,002	9,486	10,870	10,940	11,697	11,902	12,191	13,990
No. of Stands .	431	467	369	446	438	455	453	494	508

STATEMENT OF PRIZES, CLASSES AND ENTRIES
AT THE SOCIETY'S SHOW HELD AT HARROGATE IN 1929.

HORSES, CATTLE AND GOATS	Prizes £	Classes No.	Entries No.
HORSES :—			
Shire	385	11	61
Clydesdale	177	5	36
Suffolk	411	11	77
Percheron	543	10	61
Hunters—			
Breeding Classes	413	11	138
Riding Classes	343	7	188
Polo and Riding Pony—			
Breeding Classes	197	5	34
Dales and Fell Ponies	90	3	13
Hack	125	3	35
Children's Pony	54	3	30
Welsh Mountain Pony	60	2	10
Shetland Pony	61	2	—[3]
Driving Classes	384	10	91
Jumping	329	5	166
Total for HORSES	3,573	88	940[1]
CATTLE :—			
Shorthorn	766	11	130
Hereford	396	9	65
Devon	171	5	28
Sussex	310	5	29
Welsh	187	6	32
Longhorn	60	2	8
Aberdeen Angus	339	6	67
Belted Galloway	200	5	38
Galloway	152	4	23
Park	60	2	9
Dairy Shorthorn	544	10	219
Lincolnshire Red Shorthorn	270	8	32
South Devon	120	4	16
Red Poll	220	7	90
Blue Albion	285	6	35
British Friesian	535	12	162
Ayrshire	120	4	42
Guernsey	220	7	84
Jersey	266	7	99
Kerry	176	5	35
Dexter	186	5	29
Milk Yield	477	11	109
Butter Tests	71	2	71
Total for CATTLE	6,131	143	1,452[1]
GOATS :—			
Inspection Classes	91	9	92
Milk Yield	20	2	62
Total for GOATS	111	11	154[1]

SHEEP, PIGS, PRODUCE, AND POULTRY	Prizes £	Classes No.	Entries No.
SHEEP :—			
Oxford Down	215	5	36
Shropshire	109	6	47
Southdown	159	6	68
Hampshire Down	100	5	36
Suffolk	133	6	63
Dorset Down	59	3	22
Dorset Horn	54	3	25
Wiltshire	64	3	—[3]
Ryeland	111	5	39
Kerry Hill (Wales)	122	5	39
Lincoln	128	6	56
Leicester	95	5	50
Border Leicester	145	4	34
Wensleydale	90	5	45
Kent or Romney Marsh	161	6	56
South Devon	36	2	10
Lonk	36	2	11
Swaledale	72	4	23
Herdwick	54	3	15
Cheviot	64	3	18
Blackface Mountain	72	4	17
Welsh Mountain	36	2	—[3]
Black Welsh Mountain	36	2	13
Total for SHEEP	2,151	95	723
PIGS :—			
Large White	200	8	197
Middle White	200	8	113
Tamworth	150	6	31
Berkshire	227	8	104
Wessex Saddleback	149	6	37
Large Black	301	8	80
Gloucestershire Old Spots	171	6	28
Cumberland	129	6	31
Essex	118	6	40
Long White Lop-eared	142	6	30
Total for PIGS	1,787	68	691
PRODUCE :—			
Butter	35	5	73
Cheese	118	13	135
Cider	18	3	80
Wool	127	17	75
Total for PRODUCE	298	38	363
POULTRY :—			
Total	575	125	943

Grand Totals for LIVE STOCK, PRODUCE, POULTRY, &c., in 1929 } **£15,220[2] Prizes . 568 Classes . 5,266 Entries.**

[1] Animals exhibited in more than one class are here counted as separate entries.

[2] Including £472 for Flower Show, £50 for Butter-making Competitions and £72 for local classes.

[3] Classes cancelled under regulation of Prize Sheet.

As soon as arrangements were settled for the premier Society's visit to Harrogate, the Council of the Yorkshire Agricultural Society determined not to hold a County Show, and the Harrogate Agricultural Society also decided to forgo their annual fixture. Privileges in connection with the Harrogate Show were extended to the Members of both these bodies.

The site of the showyard, as already explained, although only 80 acres in extent, was level, and every yard was usable for the purposes of the Show. It was in the very centre of the town, surrounded by roads on all four sides, and with several areas of land adjoining which were utilised for motor-car parks.

The Passenger Station was within easy walking distance of the main entrance, and the special siding at Starbeck for the machinery and live-stock traffic was within easy cartage distance.

One special feature of the Harrogate showyard was that a main road ran through its very centre severing the Implement section of the showyard from the Main Ring and the Live Stock section. This road could not be closed as it was a public highway.

In many places this might have appeared to be an insuperable difficulty, but, at Harrogate, thanks mainly to the ingenuity of Mr. U. Roland Burke, who suggested the scheme, two special level crossings were arranged. By the employment of these, the local Police, and additional gatekeepers, visitors to one section of the showyard could easily gain access to the other section, and the traffic through the main road was not interfered with in any way.

The Royal Automobile Club again undertook the parking of cars, and their close co-operation with the West Riding Constabulary, coupled with the fact that land was available adjoining the showyard, made the traffic arrangements and the parking of cars a much easier matter than it has been at some shows. Both the local Police and the Royal Automobile Club received congratulations on the perfection of their arrangements.

The total value of the prizes offered for live stock, poultry, produce, etc., amounted to £15,220. Of this amount £3,281 represented contributions from the various Breed Societies, and a sum of £1,445 was provided by the Harrogate Local Committee. The statement on p. 236 shows the prizes offered, the number of classes provided and the entries made in each breed or section. Three breeds on this occasion had their classification cancelled owing to insufficient entries under the regulation introduced for the first time in 1928.

Tables are also included showing the numbers of live stock, poultry and produce, as well as the amount of shedding in the Implement Yard of Harrogate Show compared with previous years. (See p. 235.)

Following this report appears a Report by the Editor on the Live Stock at Harrogate.

The full list of Awards will be found in the Appendix.

This year the Society revived the practice of holding Butter-making Competitions. Reference to these is made in the Report of the Steward of Dairying.

An exhibition of Hives, Honey and Bee Appliances was organised by the British Bee Keepers' Association.

Under the auspices of the National Master Farriers and Blacksmiths' Association daily competitions for shoeing smiths were conducted in the showyard forge.

The Forestry and Agricultural Education sections are the subjects of special reports.

The Flower Show, as usual, was one of the most interesting and most appreciated sections of the Show. It is not possible at the Royal Show to equal the Chelsea Show or the Shrewsbury or Southport Flower Shows, as the situation of these and the natural surroundings are added features, but it is safe to say that there is no indoor Flower Show during the summer that can approach the exhibition included at the Royal Show.

All the Exhibitors apparently vie with each other to make this of outstanding merit, and a great measure of the success of the Flower Show, which created a record at Harrogate, is due to the Exhibitors.

In order to preserve the continuity of the Yorkshire Agricultural Society's Hound Show arrangements were entered into whereby this should be held on Wednesday, July 10. The Yorkshire Agricultural Society undertook the management, received the entries, and loaned some of their constructional plant for the stands, etc. This was a most interesting and popular feature. Thirteen packs, representative of the best and most fashionable Hunts in the country, were entered and Prizes and Plate of the value of over £100 were awarded.

In the early days of July the weather at Harrogate was cold. On Tuesday, July 9, when the Show opened, the sky was cloudy and there was a cool breeze, but, apart from a light shower, the day was not unpleasant. The business of judging, therefore, was got through under generally favourable conditions.

On Wednesday morning there was again a threatening sky and during the afternoon there was some rain.

The general meeting was held at noon in the large tent, when Governors and Members of the Society expressed their thanks to the Mayor and Corporation of Harrogate for the cordial reception accorded by them to the Society, and to the Local Committee for all they had done to promote the success of the Show. A full report of the proceedings at this meeting appears in the Appendix.

Her Majesty the Queen graciously signified her intention of being present at the Harrogate Show, but in the end was precluded from doing so owing to the state of the health of His Majesty. At the request of the President, H.R.H. The Duke of York kindly consented to take the place that H.M. The Queen was going to fill. His Royal Highness arrived at the showground from Goldsborough shortly before one o'clock. He was met at the Main Entrance by the Honorary Director (Lord Daresbury) and conducted to the Royal Pavilion, where he was officially received by the President, and Members of the Council and of the Local Committee.

After luncheon, His Royal Highness, accompanied by Princess Mary, occupied the Royal Box in the Grand Stand at the Ring and saw the parade of Cattle.

Later a tour of the Show was made by his Royal Highness, in the course of which he visited a number of exhibits, including the Ministry of Agriculture pavilion where a marketing demonstration was staged and the stands of the British Legion and the Bradford Technical College. The Duke left the showground about 4.30 p.m.

In the evening the Mayor of Harrogate entertained the President and Council at a banquet at the Hotel Majestic.

Thursday was sunny and very warm, and an attendance of 51,252 persons was registered, the largest day's "gate" of the week.

An innovation and a most attractive feature this year was a musical ride by the 5th Inniskilling Dragoon Guards on the afternoons of Thursday, Friday and Saturday. The display was carried out by 33 men and 29 horses in the present-day "Review Order" uniforms. Taking part in the Ride was the Regimental Mascot *Fritz*, a grey pony, 23 years old. She was one of two German transport ponies captured in a charge of the Regiment at Harbonnières on August 8, 1918, during the Allies' advance. In the charge the Trumpeter of "B" Squadron had his horse killed and he rode this pony for the remainder of the day.

Fritz accompanied the Regiment to Germany, and went with it to Ireland in 1919. From there she was taken to England and in 1920 sailed for Egypt with the Regiment on its tour of foreign duty. She accompanied the Regiment to Palestine in 1921 and returned again to Egypt with it in 1922. When the Regiment was ordered to India in 1923 *Fritz* went too. She served in Southern India and on the North-West Frontier. Finally she returned to England with the Regiment in 1928 on completion of its tour of foreign duty.

On Friday the weather was again delightful, but the day's attendance figure dropped to 18,924.

Following the practice at previous Shows, the Society permitted children from schools in the district to attend the Show on the Saturday in organised parties at half price. About 2,000 took advantage of this concession.

The Band of the 5th Inniskilling Dragoon Guards performed daily throughout the Show.

The Leeds Branch of the Y.M.C.A. undertook the arrangements for the provision of refreshments to the Stockmen on arrival and immediately before departure, and also arranged Concerts in the Members' Tent each evening of the Show Week.

On the Sunday before the opening of the Show, Sir Arthur Yapp, the General Secretary of the Association, addressed a large gathering. This work was started at the Nottingham Show in 1928. It is a most welcome innovation, and the efforts of the organisers and the voluntary Lady Workers are keenly appreciated by the Stockmen who all joined in thanking them at a Special Meeting on the Friday evening before the Show concluded.

The Tables which are given below show the attendance figures at different hours on each day of the Harrogate Show, and the total daily admissions compared with those of the seven previous Shows.

Admissions by Payment at Harrogate 1929.

Day of Show	11 a.m.	1 p.m.	3 p.m.	5 p.m.	Day's total
Tuesday (10*s.*) . .	1,441	2,803	3,649	3,856	3,884
Wednesday (5*s.*) .	7,190	15,781	21,472	23,425	23,598
Thursday (3*s.*) . .	17,738	37,073	48,592	50,779	51,252
Friday (3*s.*). . .	6,575	11,749	16,797	18,657	18,924
Saturday (1*s.*) . .	7,089	12,095	20,296	25,684	26,359
Total for Show .					124,017

Total Admissions at Harrogate 1929, *compared with previous seven Shows.*

Day of Show	Harrogate, 1929	Nottingham, 1928	Newport, 1927	Reading, 1926	Chester, 1925	Leicester, 1924	Newcastle, 1923	Cambridge, 1922
First . . .	3,884	2,388	1,214	3,568	3,352	2,273	3,587	3,338
Second . .	23,598	18,244	7,515	13,777	27,215	16,204	37,926	21,880
Third . . .	51,252	44,293	19,456	19,869	43,981	35,347	63,188	31,903
Fourth . .	18,924	14,775	10,528	11,902	20,682	14,845	42,457	21,408
Fifth . . .	26,359	28,977	23,654	24,744	17,650	16,862	39,357	13,823
	124,017	108,677	62,367	73,860	112,880	85,531	186,510	92,352

Many distinguished visitors from the Colonies and "overseas" attended the Show, and a party of gentlemen connected with the Rural Society of the Argentine spent a considerable time in the Live Stock section, expressing themselves as extremely pleased with the quality of Stock exhibited and their amazement at the excellence of the arrangements at a peripatetic Show as distinct from those obtaining in a permanent showyard to which they were more accustomed.

The success of the Harrogate Show, both financially and otherwise, can be attributed to a combination of most happy circumstances. In the first place tribute must be paid to H.R.H. Princess Mary, who attended the Show each day and took the keenest interest in all she saw; to the President of the Society, Viscount Lascelles, K.G., the Local Committee, the Mayor of Harrogate, the Town Clerk, and the Borough Surveyor.

A special measure of thanks is due to Sir Harold Mackintosh, who organised the Local Committee and the Local Fund, advised the Society on its local advertising and on the transport arrangements. He it was who shouldered the burden of the work at Harrogate and carried the suggestions made there to the Council of the Society for their adoption, at the same time expressing quite frankly his own personal opinion of what would be valuable or otherwise for the general welfare of the Show.

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LIVE STOCK AT THE HARROGATE SHOW.

THE collection of live stock at the Harrogate Show was as emphatically in contrast as those at any recent fixture with the economic condition of the industry that is responsible for the exhibition in its comprehensive whole. The business of farming in all its chief sections is undergoing financial trials of the most searching description, but the Royal and other leading fixtures exhibit few traces of the ills that are afflicting farmers and are menacing the very stability of the industry. Clearly it is not the leading Show of the year that typifies the actual state of the industry, and Harrogate was especially pronounced in the evidences it offered to throw doubt upon the representations of trouble that commonly prevail.

This renewed visit of the Society to Yorkshire was expected to bring together an impressive exhibition of farm animals, but the general prediction, confident as it was, was exceeded in representation, in numbers and in merit, the whole constituting one of the most meritorious exhibitions of live stock of modern times. In all departments, the Harrogate Show was worthy of the Society and the county visited, but in no section was the character of the exhibits more pleasing than in that of live stock. Classes could not be provided for the whole of our some seventy breeds, but where blanks obtained, the cause was lack of support from owners of the absent breeds. The Society is alive to the claims of our many varieties—the priceless legacy bequeathed by earlier generations—and wherever there is reasonable response by owners, provision is made for breeds in this wonderful collection of farm animals. The varieties missing from Harrogate usually belonged to distant areas, but in some instances, perhaps, modern requirements, or preferences, may have ruled some of the types out of favour. The discerning observer will not have failed to note absentees that could not be accounted for in this way, and, equally, to have noted the inclusion of breeds that he may have deemed of less importance than some that were missing. For any inconsistencies of the sort the Society is not to be held responsible. The policy pursued in adjusting the prize scheme is based primarily on the principle of helping those who help themselves, and where particular support fails to respond in adequate measure, the risk of omission is incurred. Owners of breeds who appreciate the importance of representation at a Show that is visited by stockowners from all parts of the world, many of them on the outlook for animals with which to replenish the herds, flocks or studs in their own countries, endeavour to make sure that their interests will not suffer from absence from the muster. In these difficult times it is understandable that private initiative may fail to meet the needs of the case. As regards most of the more important breeds the filling of the classes can safely be left to individual owners, but in quite a number of cases the necessity of organising efforts to ensure representation has been abundantly demonstrated. Important omissions have been repaired already by appropriate action on the part of the breed societies, but there are cases still where local enterprise might be developed along this line with advantage to the breeds and their owners. The Royal Show will not fully attain its proper level in national representation until every breed of considerable importance finds a place in its composition, but this standard of representation cannot be reached without the generous and cordial co-operation of the breed organisations. There has been remarkable progress in this direction since Lord Daresbury inaugurated and fostered the closer collaboration between the Society and the breed societies, but some of the latter are still uncertain in the part they are prepared to play in ensuring that their respective breeds are included in the Royal Show. Having regard to the value of such representation it is difficult to understand the apathy of owners eager for the welfare of their breeds and the prosperity of their own interests. In all recent shows there have been notable blanks that in a better state of organised publicity and marketing would not have existed.

Heavy Horses.

It would be useless to disregard the unfortunate circumstance that heavy horses at the moment receive less attention than their utility value merits. Popular interest in this class of horse has waned in a measure for the present. It is believed that there will be a revival in the welfare of all the draught varieties in course of time, but there is more than a trace of danger that awakened interest will be delayed until recovery is made harder by the effects of slackened activity at the present juncture. Harrogate provided examples of the strength of the country in four breeds that have no superiors of their kind anywhere, and if only studs can be maintained on the Harrogate levels, no apprehension need be entertained concerning the future of the great cart breeds.

It was not in numbers that the Shire breed was seen to best advantage. A total of 61 entries against 69 at Nottingham was satisfactory in a comparative sense, but it is not enough to do justice to the premier heavy breed in the land. Yorkshire borders on the southern outposts of Clydesdale territory, but paucity of entries of the English breed was not balanced by adequate or menacing representation of the Scottish breed. Admirers of the modern Shire were gratified by the excellence of the leading exhibits. They at least saw what the true-bred Shire looks like in such animals as Mrs. Stanton's Kirkland Black Friar, winner of the Gold Medal, and Messrs. A. H. Clark & Son's Moulton Commandant, also a two-year-old and reserve for the medal; Mr. J. Morris Belcher's winning old stallion, Pendley Flashlight; Mrs. Stanton's yearling colt, Snelston Harvester; Major J. A. Morrison's three-year-old filly, Windrush Tulip, and the Duke of Devonshire's Ledwyche Pearl, of similar age, Gold Medal winner and reserve respectively; Mr. F. W. Griffin's mare, Boro' Conquest, and the Messrs. Clark's two-year-old and yearling fillies. The foals and some weighty handsome geldings added to the impressiveness of the classes, the former by foreshadowing what is to follow in the breeding classes another year, and the latter in demonstrating the merits and capabilities of the matured Shire in harness.

The 36 entries of Clydesdales hardly fulfilled reasonable expectations, for it might have been anticipated that owners of this active breed would have seized the opportunity to attempt to extend their territorial gains towards the south. Some of the classes were well filled, especially those for yearling colts, brood mares and geldings, but the display was too uneven to be altogether convincing. The leading yearling colts showed true Clydesdale characteristics in fineness of bone, silkiness of hair and freedom of action, but to southern eyes there is a deficiency of size and weight. The more matured animals showed to better advantage in scale and power, the champion mare being of handsome proportions as well as pure in limb and clean in action, while the geldings, as usually happens, more than maintained the promises of the younger classes.

The Suffolk Punch assembled in force, a total of 77 giving the East Anglian breed precedence in point of numbers. The real strength of the Suffolk classes, however, did not lie in the number of exhibits, but was most marked in the quality of the stock. The chestnuts have assumed a standard of uniformity in conformation, weight and action, as well as in colour, that reflects long and careful breeding, and the chief prize animals at Harrogate exemplified the characteristics that distinguish the modern Punch. Mrs. Evelyn Rich's champion stallion, Morston Gold King, combines size, weight and free action in pleasing measure, and Mr. A. T. Pratt's reserve horse, Darsham Duke, also did credit to the breed. Mr. J. A. Berners accomplished a notable feat in taking the female championship and the reserve. The young stock and the geldings sustained the high level of merit and promise.

The Percherons lost the lead in numbers, but a total of 61 entries indicated that the French breed has among its owners an exceptional proportion eager to see it well represented in the showyard. The Percheron is not necessarily grey, but that is so predominantly the colour associated with the breed, at any rate in this country, that the sprinkling of blacks and dark greys attracted some notice. The breed gave a good account of itself and had worthy champions in Lieut.-Col. H. E. Hambro's stallion, Carburateur, and the same owner's three-year-old filly, Escargole, both bred in France. Sir Merrik Burrell's reserve stallion was bred by exhibitor, but as the reserve mare also was an importation, the success of French-bred animals suggests that the Percheron, in common with other classes of live stock, adhere most closely to established type in their native environment.

HUNTERS, HACKS AND PONIES.

The hunter classes were not only easily the strongest in the section of saddle and harness horses, but they formed one of the outstanding features of the general Show. An aggregate entry of 238 in the breeding and riding classes was exceedingly satisfactory, and if the figures be examined closely they afford further encouragement in that the exhibits in the breeding classes numbered 138 against 100 in the adult hunter contests. One naturally associates Yorkshire with horse-breeding in a sense beyond most other counties, and the well-filled classes can be attributed in substantial degree to the strength of the county exhibits. But contributions came from many parts throughout the country, and the distant and local contingents blended to make up classes of high merit. The character of the breeding classes was especially noteworthy as indicating that the breeding of saddle horses is being regarded increasingly as an important source of support to the farming industry. The hunter is much more than a luxury animal, but the fact that there is something suggestive of a luxury market for the best type of saddle horse is appealing with growing emphasis to agriculturists finding it hard to discover a profitable market for the ordinary products of the farm The suitably bred hunter will always sell readily, especially if he is already broken and trained for his work. Moreover if the breeder is competent to prepare the animals for the best buyers himself, he stands to profit handsomely by his enterprise.

The Harrogate classes supported the view that farmers or occupiers of land are devoting greater attention to the production of saddle horses. The brood mares and young stock formed an exceedingly interesting collection both as regards breeding and individual merit. Then again a careful survey of the hunters shown in saddle provided an instructive lesson in the class or type of animal wanted, and that would command the best market. The Society also signified due appreciation of the economic merits and claims of this class of stock by providing a comprehensive classification, and the response on the part of exhibitors was highly reassuring as to the future of this section of the great Show. An attractive market has induced the selection of the finest blood for the breeding studs, and if the entries of brood mares and young stock be studied carefully, it will be noticed that the improvement discernible at Harrogate is the result of increased attention to heredity and type. The market is worthy of minute investigation, and there are good reasons to think that, as usual, breeders are quick and competent to adjust their methods to the needs and preferences of their best customers.

The riding classes drew the usual crowds to the ringside and, in a measure beyond the ordinary, the onlookers were rewarded by pleasing exhibitions of horses and horsemanship. It is to be hoped that this section of the Show will continue to grow and to prosper, both because of the irresistible appeal saddle—and harness—horses make to the public, and on account of what this class of horse may mean to the well-being of the countryside.

The Hack and Pony classes were correspondingly interesting. The hack is a very popular class of animal, a popularity based on utility and appearance in attractive proportions. The Polo pony also is balanced in a manner that wins favour and support. The Harrogate collection of Polo ponies was highly pleasing, and lovers of this class of animal had ample opportunity for gratifying their preferences in following the proceedings in the ring. The Dale and Fell ponies were not numerous, but they formed an appropriate and interesting section of the Pony group, which included also Welsh and children's ponies.

The Driving classes gave the Hackney its chance to show its distinguishing qualities, and in strong competitions some very fine performances in single and double harness were witnessed.

CATTLE.

As in former years, the cattle section was of outstanding proportions and merit. A department comprising 21 breeds, or separate classifications, is bound to be impressive in variety and utility representation. A show of this dimension provides material for instructive study and inquiry. From comments by uninitiated visitors one hears sometimes at shows, it would appear as if the contrasts in types, as well as the number of breeds, were to be explained by preferential tastes or fancies on the part of owners. The wide range in sizes and types, from the Dexter to the South Devon, the extremes of scale and weight, from the Galloway to the Hereford in beeving breeds, or from the Jersey to the British Friesian in milking strains, might easily suggest to the non-agricultural mind that environment in this small island could not reasonably account for such amazing divergence in form in the ordinary animals of the farm. While several breeds may exhibit certain points of resemblance to suggest a common origin, there are more that show no trace of kindred at all, and may even indicate derivation from sources remotely distant. Yet the study of farming and stockbreeding experiences and results in this country discloses marvellous effects of natural influences upon the live stock of counties and other areas. It might be an exaggeration to say that all our breeds—for there are several that were not included in the Harrogate Show, because ownership support fell short of requirements—are needed on account of some distinguishing individual merit, but it is broadly the case that a valid claim could be made for the retention of every one of our varieties. The conditions under which cattle are kept and utilised do not vary so sharply, or so widely, as those that dominate the pastoral pursuit, but climate, soil, elevation or market offer contrasts in environment numerous and definite enough to suggest and sanction corresponding freedom in the selection or evolution of breeds of cattle. No one would contend that personal preference does not influence the choice of breeds and types, but in these severely commercial times, selections are not long maintained that are not warranted by economic results. There have been noteworthy changes in breed positions in past years, and occasionally one variety progresses at the expense of another, but for the most part the advancement of a registered breed is made in displacement of classes of no particular breed.

The Royal Show provides a sound, broad idea of the importance of cattle in British farming. Whether one visits the animals in their stalls, follows the judging proceedings in the numerous rings on the forenoon of the opening day, or, above all, witnesses the parade in the Great Ring on the second and subsequent days, it is impossible not to be deeply and lastingly impressed by the wealth of stock of pure and valuable pedigree bred and owned by the farmers of Great Britain. Whatever the type of farming adopted, there are cattle breeds to suit the needs of the individual business. The selection includes specialist beef breeds, deep milking breeds, and dual-purpose varieties, to answer the requirements of intermediate holdings. It is for the individual owner to make his own choice in conformity with the computed requirements of his farm, but he need go no farther than the Royal Show for an exhibition of merit of the sort appropriate to his needs or preferences.

Detailed inspection sometimes reveals imperfections that escape the eye when the collection is regarded in the aggregate. This is a fairly common experience in other circumstances than live-stock shows, for bulk in itself tends to impress the mind. Minute examination of the breed classes at Harrogate disclosed occasional lapses from the general high standard, but on the whole the exhibition of the leading breeds was both impressive and creditable. The Shorthorn, as always, takes precedence because of the place the breed fills in this and many other countries. The breed of the Collings, Bates, Booth, Cruickshank, and others, maintains its supremacy, and as long as it continues to serve the general needs of the farming industry so well, its position will not be seriously imperilled. The Harrogate collection was of imposing numbers, and an interesting circumstance was the density of the crowd of visitors that lined the ring during the judging. Breeders were heard frequently to remark that the number of onlookers was reminiscent of other days, when farmers travelled in larger numbers to meetings of the kind.

Oversea visitors were said to have been rather severely critical of some of the classes. Home breeders also were not favourably impressed by a number of the classes of both bulls and heifers. The observations of the oversea visitors turned chiefly upon type and quality, and it was even suggested that the heavy drain of bulls to satisfy the foreign market was beginning to be revealed in the stock bred at home. Where there was a depression in the standard level, however, the explanation probably was that showing has become too expensive for many breeders, owners of good herds who in more prosperous times were constant exhibitors. Recent critical times have curtailed the number of exhibitors and those who have been compelled to restrict their expenditure were precisely of the sort that gave liberal and effective support to the younger classes. One noticeable feature was the absence of uniformity of type and quality that often characterises the Royal Shows, although in considering this matter it is important to remember that the Shorthorn is owned so widely and is asked to serve so many purposes under varied conditions, that more than the normal latitude in point of appearances is perfectly appropriate and understandable. The Cruickshank type still predominates, but there were notable examples of the true Bates Shorthorn, for instance in Mr. Harris's first prize old bull.

Comments were heard regarding the high condition of some of the exhibits. This is an old story, and it need not excite undue notice. It is a recognised fact in animal training for shows, that the high conditioned candidate may have cost less to prepare than a rival that has proved to be an unthrifty doër. In addition, only the skilled herdsman, with an amenable class of animals in his care, could bring cattle to the point of maturity seen at Harrogate without sacrificing outline or other characteristic in the process. The breed at Harrogate had two notable champions and most of the prize animals were worthy of the breed and the herds represented.

Breeders of Herefords were pleased with the exhibition their cattle presented, as they had good right to be. The classes were not large, but the best types of the famous grazing breed were forward in force, and onlookers were privileged to see the sort of short-legged, deep-bodied animal the Hereford really is. Even in these classes, weaknesses could sometimes be detected, but this will be the case till the end of time. It may have been that a body of superb conformation and flesh was accompanied by a head not quite of the same class; or outstanding breed character in head and countenance was associated with some blemish in symmetry; but mention is made of these points to indicate that exacting criticism might easily be carried too far and induce unwarranted reflections upon the breed in its comprehensive aspect.

Many besides the owners of Devons were glad to see the valuable breed of the south-west restored to its wonted prominence in the Royal Showyard. The entries were not numerous, but the 28 in the five classes sufficed to give a fair idea of the character of the Rubies of the West. It may seem remarkable that none of the first-prize winners belonged to herds in the native county, for the Prince of Wales and Mr. Brent both show from Cornwall, while Major Coldwell is a Somerset exhibitor. The precise locality of the herds is a matter of secondary significance, and the fact that this important class of fine-quality cattle was fittingly represented in a showyard as far north as Yorkshire, gave complete satisfaction and went far to make amends for the temporary lapse at Nottingham last year.

The Sussex follows the Devon appropriately and with one entry more—29—this noted beef variety also did itself justice at Harrogate. The Sussex breed has many strongholds in Kent and Surrey, but while prizes went into both these counties, the home county claimed the leading honours and deserved the liberal share that fell to its lot. This breed invariably makes a strong appeal to onlookers in the showyard, summer or winter, and it seems remarkable that it does not go into more hands than commonly own and exhibit animals of the breed. Although the number of herds represented may not be large, however, the quality of the stock is satisfactory and the regular exhibitors are loyal in their support. Size and weight, notable as they are in the breed, are equalled by the symmetry of frame and levelness of flesh.

The Welsh Black cattle also are fortunate in having eager supporters to ensure their proper representation in the showyards. The exhibits that were stalled and paraded at Harrogate did justice to the breed, and it was pleasing to see that some of the honours were retained in Yorkshire. The Black Welsh, like several other breeds, has two types, or rather the makings of two types, for milk or beef is encouraged with success as the owner may wish. The breed has shown itself adaptable to the needs of its owners, and both classes were included in the Harrogate collection. In general it is changing towards shortness of leg and finer bone, and progress towards greater uniformity is also noticeable.

The classes of the old Longhorns vary little from year to year in numbers or appearance. The remark is heard sometimes that these cattle have had their day, and might now be content with the seclusion of their few remaining homes ; yet the entries constitute a distinctive feature in a great display of cattle, and as long as there are enough owners to provide the qualifying number of exhibits, the Longhorns of Bakewell's creation will be welcome in the Royal Showyard.

The Aberdeen-Angus breed has long ago made its position secure and prominent at the premier Show. The 67 entries at Harrogate made an impressive exhibition in both a collective and individual sense. The supreme championship went to Scotland for one of the best cows of recent years, but English herds were exceedingly successful in the other competitions. There was probably no better cow of any breed in the Show than Col.

Kennedy's Elmina of Doonholm, but Mr. Cridlan's bull, and numerous other prominent exhibits, testified to the success with which the breed has adapted itself to conditions south of the Tweed. Comments may be heard sometimes to the effect that the breed is losing size as the result of concentrating on quality, but there is nothing much amiss in this respect, for size and weight are not synonymous terms, and there are many "big little ones" in this breed.

Belted Galloways again outnumbered the orthodox Galloways. The belted cattle showed to better advantage than sometimes is the case, and the entry of 38 included both blacks and duns of handsome proportions, short in the leg and wide and deep in body. The other classes also presented true specimens of a famous beef breed, and with the double opportunity to make itself known the Galloway was seen in imposing numbers and merit.

Park cattle are distinguished as being the only breed that may be either polled or horned, and both types were present at Harrogate. The horned strains seem to be the more highly developed in dairying, but there are some fine examples of utility polls. The breed is obviously of ancient origin and appears to be worthy of especial attention for stocking private parks.

The Dairy Shorthorns, as in all recent years, formed a very notable feature of the section. The progress that has been made in developing and fixing characteristics appropriate to the premier dual-purpose breed, becomes increasingly discernible, and Harrogate attracted a collection that has probably never been surpassed, or even equalled. The large classes, aggregating 220 entries, were not by any means lacking in individual merit, for there were many fine types present, but it was in the aggregate that the display was so arresting and instructive. Dairying properties are being cultivated with skill, and with due regard to the importance of milk as a farming asset, but rarely is there such concentration on milk as can seriously impair the value of the animals for meat production. The twofold objects of meat and milk production are kept prominently in view and, therefore, there is seldom any suggestion of weakening constitution vigour perceptible in the classes. The breed was creditably championed and, throughout, there was evidence to be gleaned as to the type of animal the owners were cultivating, no doubt as the result of searching study of records and experiences concerning the dual-purpose animal.

The kindred Lincolnshire Red was not forward in quite the same strength as at Nottingham last year, and the number of herds represented was smaller than could be wished, but the quality of the stock was satisfactory, with a leaning towards milk rather than towards beef. It will be noticed that the breed is spreading into several counties besides its native Lincolnshire, the King having established a successful herd at Sandringham. This branch of the great Shorthorn family wins its way chiefly as a dual-purpose breed and it is recognised to belong essentially to that grade of cattle.

The South Devons, or South Hams, did not travel north in large numbers, and the 16 entries may have been hardly sufficient to show the breed at its best; yet there were exhibits of high merit to instruct northern visitors on the utility value of this monster breed, the biggest in scale we possess, and capable of wonderful achievements in either meat or milk production.

The Red Polls have long ceased to be reckoned as a territorial breed. True, East Anglia will ever be recognised as the headquarters of the breed, but a perusal of the Royal Catalogue will show that herds have been established in many counties, and there are several important herds in Scotland. Already the Red Poll has strong claims to be regarded as a national breed, and the classes at Harrogate were worthy of the wider ownership and popularity attained. This breed is another of those that have two types more or less definitely fixed, but milking is deemed the chief merit, at least in the summer shows, although the offspring of noted herds have done well in the younger classes at the winter meetings. The breed has spread and improved remarkably in the past twenty years, and from quite modest dimensions at Royal Shows of two or three decades ago it has risen to the first rank in any show of the present time. It was well and worthily represented at Harrogate.

The Blue Albion continues to come forward in substantial numbers, but it is doubtful if the breed is improving its position. The classes usually include, as they did here, very useful types of general-purpose cattle, but there is still lacking that adherence to type and characteristics that denote consistency in reproduction and progress towards a definite object. Yet the Blue Albion enjoys strong support and appears to succeed in gratifying the requirements of its owners, which, after all, is a notable achievement.

No breed is kept better to the fore in the showyard than the British Friesian. The owners of this variety are to be complimented upon the enthusiasm with which they support the breed in the shows. The Dairy Shorthorns alone exceeded the British Friesian total of 152 entries, and the classes were as impressive in merit as in numbers. The wide support which the breed enjoys was evidenced by the numerous onlookers who watched the judging, and, with so many special prizes, it was not always easy to follow the proceedings as closely as could be wished. The exhibits came from all parts of Great Britain, even from strongholds of the Shorthorn, the Aberdeen-Angus and the Black

Welsh, and it is clear beyond question that the breed is capable of adapting itself to a wide range of climatic and physical conditions. The Harrogate collection provided a sound illustration of the type of British Friesian that is wanted and wins popular favour.

The Ayrshire continues to improve its position in the Royal Show, in any case in numbers. Scottish exhibitors still claim a liberal proportion of the honours, but English herds are evidently increasing in number, as they are also in effective competition. The beautiful udder formation of the Ayrshire is a constant subject for complimentary remark.

The Guernsey has been enjoying a period of exceptional prosperity and the classes at Harrogate were well filled and of high merit. The herd owned by the President, Viscount Lascelles, at Goldsborough Hall, is one of the most northernly of the breed, and although most of the leading prize animals came from southern counties, the Guernsey is able to adapt itself to a wide variety of conditions. Its supporters had the satisfaction of seeing large classes, strong in the best qualities of the breed, at Harrogate.

Of Jerseys also there was a very fine display and owners of this favourite breed had every reason to feel satisfied with the collection of typical animals paraded before judges and public. The Jersey will always win favour with the public because of its distinctive characteristics combined with exceptional utility properties.

The Kerry and the Dexter breeds, as usual, completed the wonderful muster of varieties and animals in worthy fashion. Both these varieties have been firmly established in England for many years and the Harrogate exhibits indicated that the ground already won will be strongly held in the years to come.

GOATS.

The goat classes, in which there were 92 entries, continue to attract considerable notice. There is no section in which the application of care and skill to the improvement of exhibits is more clearly reflected than in this. The leading breeds undergo modification to bring them into closer conformity with changing preferences and uses, and the work of the competent improver is apparent in all varieties, and ages. The manner in which the utility value of the goat has been cultivated and fixed is eloquent testimony to the skill of the owners in the management of this class of animal, which forms an appropriate feature in the modern show. With two exceptions the exhibits all belonged to ladies, who seem to have acquired especial distinction in the breeding and management of the goat.

SHEEP.

Although the sheep classes were not fully representative of the breeds in the country, the collection of twenty-one breeds, with a total entry of 723 pens, came considerably nearer that level than the Nottingham exhibits of 1928, when only fourteen breeds were penned. There are more than thirty distinct breeds of sheep in Great Britain, and it seems a pity that about a third of them should fail to qualify for places in the greatest show of the year. Possibly some of the missing varieties are looked upon as more or less local, and would gain little by seeking the wider publicity that a Royal Show would afford, but if the history of most of the breeds be examined, it will be found that they have developed from small and local beginnings. Therefore if the breed be of a valuable type there is no need to despair of extending its supporters and markets and of increasing its earning capacity.

The larger representation than in 1928 is due chiefly to an accession of strength from northern areas. As against the absence of four of the five Devon breeds, there were classes of both English and Scottish varieties that did not find room at Nottingham. It suggests lack of enterprise, however, that the great mountain breeds of the Borders and northwards were not shown in greater numbers. The meagre entry of 17 of Blackface Mountain, the most numerous breed in the country, could hardly be regarded as satisfactory, and many of the noted Scottish flocks contributed nothing to the representation of the breed. Something different might have been expected in a show so accessible from the great centres of the breed. The Cheviot also was poorly shown in point of numbers, both being exceeded by the thrifty Swaledale of the Show area. The Herdwick and the Lonk, the latter not seen so often as might be expected, likewise typified the pastoral breeds of the northern counties, while the Welsh breeds, the Mountain and the Black, maintained worthily the traditions of the Principality.

The Longwools and the Shortwools, which form the standard features of the sheep section, were both shown in fair numbers and in pleasing merit. It was interesting and significant to notice that the old Southdown made the largest breed entry in the sheep department. Yorkshire is not a Southdown sheep country, and no exhibit was entered by a Yorkshire owner. The nearest flock to Harrogate represented was that of His Majesty at Sandringham, and Lady Ludlow, Lord Derby, Mr. R. S. Hicks, and Mr. Pierpont Morgan, were other exhibitors from north of the Thames. This breed appears to be regaining its former position, and Northern farmers and others were afforded an excellent opportunity to see the oldest of the Shortwools to good advantage. The progressive Suffolk came second with an entry of 63, and again there was an impressive exhibit of a type of sheep that is forcing its way into territory outside its original home. The Suffolk, indeed, has large and eager support in the North, and the select entries from some of the most noted East Anglian flocks added strength to the contingents from the more or less scattered flocks north of the Wash. It was refreshing also to see the Shropshire forward in imposing numbers. At one time the judging of the Shropshire classes was wont to last far into the evening, but in recent years the collection has scarcely done justice, numerically, to the breed. This year, as at Nottingham last year, the classes were well filled with specimens of the modern Shropshire. The Oxford Down enjoys a popularity with Scottish flockmasters for crossing with local breeds that must have made the classes at Harrogate appeal in a special sense to visitors from over the Border. The numbers and quality were both satisfactory, and it seemed that the Oxford, like most other breeds, was being reduced in size and "brought nearer the ground." Progress towards quality and the smaller joints of the present day is discernible in most breeds. Both the Dorset breeds were forward and it was pleasing to find the horned variety again present, since interest in this prolific and accommodating breed in the North is considerable. The Ryeland and the Kerry Hill (Wales) varieties were penned in high quality, the character of the classes indicating that the supporters of both breeds are determined to make known the important properties of their respective types.

Of the Longwools the Lincoln and the Leicester were shown in strength and evidently had many supporters present. The Lincoln came forward in about the same force as in 1928, but the Leicester, having moved its headquarters into the East Riding, was penned in exceptional numbers and in imposing merit. It was refreshing to see Bakewell's old breed out in such strength and demonstrating in every sense its adaptability to modern requirements. Its relative the Border Leicester was back again this year and gave an opportunity to Southern visitors to see something of the source whence springs (crossed with the Cheviot) the commercial ewe now widespread throughout many counties in England. The local Wensleydale made an impressive and instructive display. The classes were well filled and this distinctive breed was seen in something like its true colours. The Kent or Romney Marsh travelled north in accustomed force. Owners of this variety have exceptional belief in the benefits that accrue from keeping their breed before the show-going public, and the results abundantly justify their enterprise. There were strong classes, the entries being larger than last year, although the journey was longer. The South Devon made the longest journey, and if the numbers were not large the quality of the pens was typical and instructive.

PIGS.

The breeds of pigs were strongly represented. There were ten breeds compared with nine at Nottingham—a place having been provided for the Cumberland pig—but the aggregate of exhibits fell from 833 to 691. Harrogate is not centrally situated for many of the breeds and, therefore, the numbers of breeds and entries must be considered extremely satisfactory, and altogether encouraging. The pig industry had undergone a period of subdued activity, and for a time even the owners of pedigreed herds did not feel completely happy about the position and outlook. In view of the difficult time through which pig breeding had passed the collection at Harrogate was more than creditable. In numbers and quality the pig section was imposing and impressive. Comments of a conflicting, and not always an enlightened, nature are frequent regarding the suggested needless multiplicity of varieties, and the imperfections of outline and utility value of our pigs, in general, usually for no better reason than that other countries pursue a different policy and concentrate upon fewer types; but the normal pig department at the great Royal Show is instructive in its comprehensiveness and breed merit. It is conceivable that we could have fewer breeds without loss to the industry or to the nation, but it is only fair that the views of owners—men actually in the business—should be accorded due respect and regarded with prudent toleration. It is sometimes forgotten that pig owners in this country have a choice of two important markets, and that the single market usually aimed at abroad is often of secondary significance to British farmers. Recognition of this distinction widens the range for breed diversity and explains, even if it does not wholly justify, the larger number of types and strains cultivated in Great Britain.

The predominance of the Large White—the traditional Yorkshire pig—was appropriately maintained. With a total of 197 entries it fully justified in the Show the place it occupies at home and abroad in actual farming practice. This noted breed has withstood opposition of different kinds successfully, and was never in stronger or wider favour than is the case at present. In saying this it is not intended to cast any reflection upon the qualities of rival varieties. Indeed it might be said that breeds without individual properties of economic importance could not survive against the Large White, and hence the deduction that there is no breed devoid of a measure of individual usefulness to warrant its existence. The Large White, as the entries show, has spread from its native Yorkshire into many counties and has made its position secure as a national asset. The type of pig in favour does not change rapidly, and the Harrogate collection may be accepted as typifying what is regarded as best in this class of pig. There has been evolved from the original material a type of pig ideally formed for the commercial requirements of the age.

The Middle White follows closely upon the heels of its larger relative. It differs from the Large White in essential respects, and the fact that the two continue to prosper alongside each other, in healthy commercial rivalry rather than in narrow, prejudiced intolerance, suggests in a measure the obstacles to breed concentration in this country. The more compact Middle White has won a place in the economy of the pig farm which it will continue to hold, and may even expand, for the pork trade is far from likely ever to take second place to the more conspicuous bacon pursuit. These two fine old and impressive breeds, in a sense, illustrate the impediments to uniformity in the class of pig that is maintained in this country. The 113 entries of Middle Whites exemplified in remarkable degree the breed as it has been developed and cultivated for modern needs and uses.

The Tamworth has many supporters in Yorkshire and if it does not mature so rapidly as some of the other varieties it can attain to market development at little cost. The 31 entries gave a clear idea of the class of animal the true-bred Tamworth is.

An entry of 104 Berkshires indicated that this choice breed is reasserting itself with effect. For a time the Berkshire was showing signs of decreasing in number, but so handsome and meritorious an animal could never fail to win and to hold supporters wherever its qualities are known. The Wessex Saddleback was penned in sufficient numbers and merit to arrest attention in a Northern showyard, and to gratify its own supporters. The Essex, of similar marking, also gave proof of its determination to continue its separate existence, and pigs of notable quality were present to uphold its claims.

The Large Black also was a bit out of its chief areas, but the classes were strong in numbers and pleasing in merit, as were the exhibits in the Gloucestershire Old Spots, the Cumberland and the Long White Lop-eared varieties. This group of established breeds is instructive in diversity, and it would be difficult to say precisely where economic recommendations begin and human preferences end. Anyway, the types are there and it is evident that it will not be an easy matter to eliminate any of them even if such a course should be advised.

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REPORT ON IMPLEMENTS AT THE HARROGATE SHOW, 1929.

THERE were twelve miscellaneous implements submitted for the award of the Society's Silver Medal, including machines for Harvesting, Cultivating, Dairying, Farm Improvement and Drainage, and Barnyard Work. On two of these machines judgment had been reserved at the 1928 Show at Nottingham for certain reasons and the implements allowed to be re-entered on the present occasion as New Implements.

A detailed list of the entries is given below.

Society's Catalogue No. of Entry	Nature of Implement	Exhibitor's Name and Address	Price	Remarks
205 .	Two-horse Mower, double drive	A. C. Bamlett, Ltd., Thirsk	£28	—
267 .	Cattle Drinking Bowl	George Paul & Co., Denny	14*s.*	—
287 .	Mole Drainer and Pipe Layer	Auto-Mower Engineering Co., Ltd., Bath	£175; Mole Plough £17 extra	Referred from 1928 Show.
288 .	Zigzag Chisel Harrow	Teasdale & Metcalf, Ltd., Wetherby	£6 6*s.*	—
306 .	4½ H.P. Vertical Petrol Water-cooled Engine	Bamfords, Ltd., Uttoxeter	£36	—
375 .	Bottle Washing Machine	Barford & Perkins, Ltd., Peterborough	£12	—
547 .	Artificial Manure Distributor	Teasdale Bros., Ltd., Darlington	£23 (upwards)	—
751 .	Pitch-pole Arable and Pasture Cultivator	John Wilder, Reading	£28 15*s.*	—
805 .	Rapid Motor Mower	Simar Rototillers, 58 Compton Street, London, E.C.	£150 (prov. price)	—
1302 .	Combined Milking and Brine Cooling Plant	Hosier Open Air Pure Milker, Ltd., Wexcombe, Marlborough.	Brine Cooler, £125; Boiler, £17	—
1304 .	Milking Machine	Gascoignes (Reading), Ltd., Reading	£80 (upwards)	Referred from 1928 Show.
1492 .	Poultry House Ventilator	Boulton & Paul, Ltd., Norwich	Standard Venturi Ventilator Capping, 1*s.* per ft. run	—

In making the awards the Judges were influenced mainly by the considerations enumerated in the Report on New Implements of 1928, and particularly by the results of tests carried out under the auspices of the Institute of Agricultural Engineering of Oxford. It was not deemed to be necessary for the implement to comply with all the conditions set down, and consequently the award of a medal does not necessarily imply that all the conditions were satisfied.

Of the twelve machines entered, six were awarded the Society's Silver Medal. It will be noted that it was possible to make an award in each of the classes already mentioned, two awards being made in the dairying class. The remaining entries, after careful examination, and, in most cases, after consideration of results of tests which had been made on them, were not deemed to be of sufficient merit to justify awards.

The Society's Silver Medal was awarded in the following cases :—

Society's Catalogue No. of Entry	Nature of Implement	Exhibitor
205 . .	Two-horse Mower, double drive	A. C. Bamlett, Ltd.
287 . .	Mole Drainer and Pipe Layer	Auto-Mower Engineering Company, Ltd.
306 . .	4½ H.P. Vertical Petrol Water-cooled Oil Engine	Bamfords, Ltd.
751 . .	Pitch-pole Arable and Pasture Cultivator	John Wilder.
1302 . .	Combined Milking and Brine Cooling Plant	Hosier Open Air Pure Milker, Ltd.
1304 . .	Milking Machine	Gascoignes (Reading), Ltd.

IMPLEMENTS AWARDED SILVER MEDALS.

Cat. No. 205. *Two-horse Mower, double drive. Harvesting Class.*

The design of the drive in this mower differs from the usual form in that the large internal gears which mesh with the pinions on the cross-shaft are not integral with the land wheels, but are separately centred by the axle and driven at the hub by pawls from the land-wheel centres. The arrangement constitutes a much improved mechanism in that the effect of any wear of the land-wheel journals which occurs is not transmitted to the first gear drive. Although the double drive is not new, the transference in this drive of the ratchet and pawls from the cross-shaft to the land wheel is an improvement which conduces to a more rigid and positive mechanism, and one likely to give better service than the usual form. The drive from the cross-shaft to the crankshaft is through the usual bevel gear, which is enclosed in a casing integral with the main frame. The connecting rod to the knife is easily removable. The fingers are of wrought-iron case-hardened in the slot to minimise wear by the knife.

During tests made the machine was used to cut 30 acres, after stopping, of meadow grass. It performed the work admirably, and it was found possible to restart the mower, in the standing grass, without backing.

The Judges considered that, although the machine embodies no radical alteration in principle, yet the improvement in design, together with the care and trouble exhibited in hardening and protecting working parts subjected to wear, is highly commendable and well deserving of the award of the Society's Silver Medal.

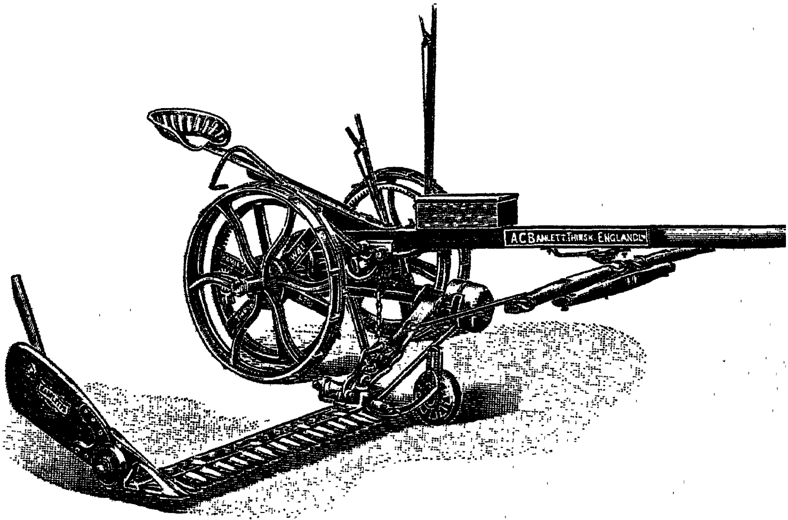

FIG. 1.—Double-drive Mower.

Cat. No. 287. *Mole Drainer and Pipe Layer. Farm Improvement and Drainage Class. (Deferred from Nottingham Show,* 1928.)

This comprises a tractor fitted with a winch and a separate self-lift mole plough of novel design. The power unit consists of a four-cylinder 20 H.P. side valve Coventry Simplex engine which develops 65 B.H.P. at about 3,000 r.p.m. The engine is water-cooled, a radiator and fan being fitted. The gear-box is integral with the engine crankcase and is fitted with gearing which provides three speeds forward and one speed in reverse. The winch is arranged with its shaft axis across the front end of the chassis and consists of a winding drum 8 in. diameter and 17 in. long, having a capacity for 250 yards of ½ in. diameter flexible steel cable. The drum is driven by machine-cut spur gearing of 32 : 1 ratio. The transmission to the road wheels is by chain drive from a countershaft arranged parallel to the drum shaft on the chassis. The maximum speed of the tractor on top gear is 20 m.p.h.; its weight is 48 cwt. The mole plough consists of a sheet-steel skid bolted to the forward end of a main frame. It is fitted with a disc coulter and a locking device, the blade of the plough being pivoted in such a manner that it can rotate through an angle of 90° or more between the bars forming the skid. The plough is fitted with an automatic safety device which, when operated, allows the mole to emerge from the earth when an obstacle is encountered. When the implement is used for laying pipes or cables the mole is equipped with a special connection which releases the pipe or cable should the mole encounter an obstacle and emerge from the ground. The method of operation of this implement was described in the Report on New Implements entered at the Nottingham Show of 1928, but is repeated in order that the present description shall be self-contained. The plough is set at the proposed line for the drain and the tractor is moved forward along the line paying out its cable to near the limit of its length. At this point the tractor is stopped and the winch gear put into action, and a sprag, which is fitted to the underside of the chassis, is dropped on to the ground. When hauling commences the sprag enters the ground to form an anchor. Subsequently, when the plough approaches near to the tractor, the hauling is stopped and the winch thrown out of action, after which the tractor again moves forward, pulling out the sprag and paying out cable. The operation is then repeated.

A special feature of the mole is the shearing nose which, instead of being of the usual "torpedo" shape, is formed by the section of an inclined plane and the cylindrical body of the mole.

The mole drainer has demonstrated its capabilities by draining 400 acres of land, the main drains being 6 in. diameter at depths from 23 in. to 28 in., the minor drains being 3 in. diameter at depths from 16 in. to 21 in.

The tractor was demonstrated on the show ground when the sprag buried itself within 4 ft. of travel of the tractor; the resistance of the mole, which was 3 in. diameter and 2 ft.

6 in. below the ground, and ploughing through stiff clay, was well within the capacity of the engine.

The machine is novel and has the distinct advantage that it can be worked on land unfit for direct haulage. On account of its light weight, appreciable damage to the ground when employed on very wet land would not result.

Both tractor and mole plough are well designed and constructed and are suitable for use by contractors or on large estates. Although primarily designed for mole ploughing or cable work, the tractor can be used for direct traction.

The machine was deferred from the 1928 Show principally for the reason that it was then considered to be in a state of development. Many improvements have now been embodied and the Judges had no hesitation in awarding the Society's Silver Medal to a machine which tends to overcome the difficulty of drawing drains of any reasonable size and depth under adverse conditions and one which, in view of the importance of drainage, is of considerable economic value.

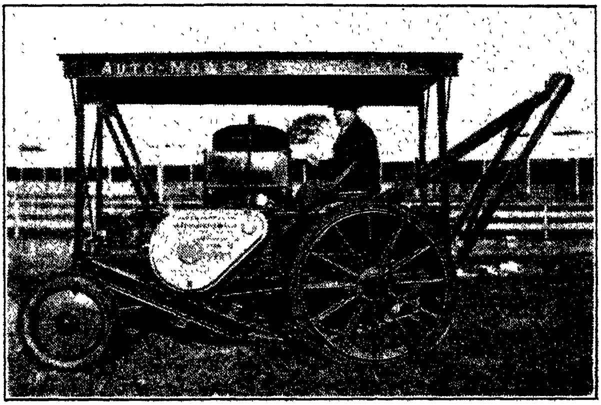

FIG. 2.—Tractor and Mole Plough.

Cat. No. 306. 4½ *H.P. Vertical Petrol Water-cooled Engine. Barnyard Machinery.*

This engine is of the 4-stroke vertical totally enclosed type. Its chief feature is that while it is totally enclosed the crankcase construction permits of the cylinder block, together with the crankshaft and its bearings, being hinged over, giving easy access to all working parts. A further important feature is the valve and valve gear mechanism, embodying an enclosed inlet valve and vertical exhaust valve, by means of which the normal number of working parts is halved. The employment of the "Wico" ignition system in combination with a laminated spring drive dispenses with the usual auxiliary magneto drive, thereby greatly simplifying the mechanism required. The combustion head of the cylinder is of hemispherical form and liberal water-cooling space is provided by the jacket. The engine is fitted with a Solex carburettor and a centrifugal governor. The enclosed overhead valve gear is automatically lubricated, the crankshaft, connecting rod and piston being lubricated by splash. The system of lubrication reduces to a minimum the attention which the engine would require in service and the possibility of both under and over lubrication is lessened by the absence of drip feeds and oil caps—a feature of considerable importance in machinery of this type. The splitting of the crankcase affords such ready access to the crankshaft, connecting rod and piston that the latter can be removed in a very short time. The engine can be supplied with either tank or hopper-cooling. In order to economise space the fuel and water tanks have been combined. In the case of the hopper-cooled model the fuel tank takes the form of a muff surrounding the upper part of the circular cooling tank.

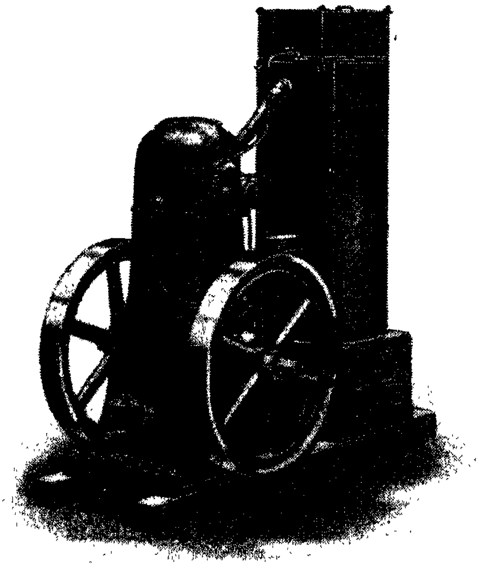

Fig. 3.—Bamford Engine.

The engine is soundly constructed and on test easily developed its full power at rated speed.

The Judges considered that the novelty displayed in the design and the many excellent features embodied in the engine fully justified the award of the Society's Silver Medal.

Cat. No. 751. *Pitch-pole Arable and Pasture Cultivator. Cultivating Machinery Class.*

This machine is somewhat similar to the pitch-pole cultivator which was awarded the Society's Silver Medal in 1923. The present machine is fitted with one set of double-ended knife tines for pasture aeration and another set for arable work. Adjustable side wheels and a rear wheel are fitted for transport.

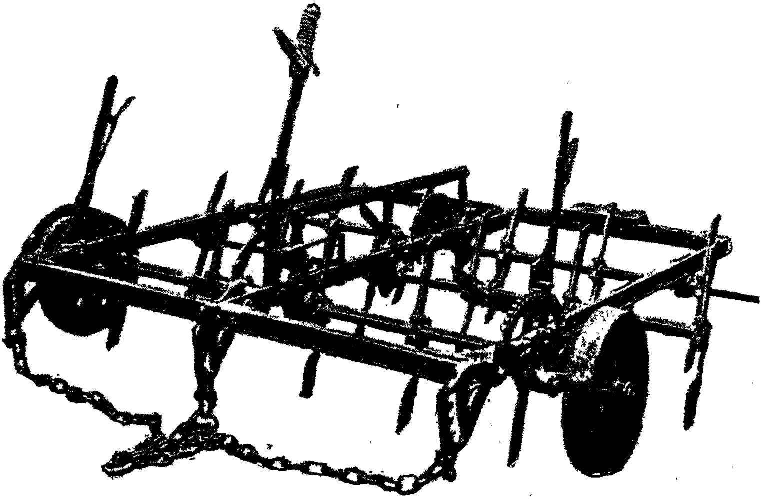

FIG. 4.—Pitch-Pole Cultivator.

The control lever, which is operated by the driver by means of a cord, produces three effects. A slight pull allows the tines to come into operation, further motion of the lever releases the tines and while the lever is in this position the tines revolve or "pitch-pole," this particular position being used when turning at headlands; still further pull on the cord returns the tines to their normal working position. Double-ended tines are fitted, but obviously only one end of each is in operation on the ground at one time. A simple device enables the angle of the tines to be adjusted. The depth of operation is also easily adjustable by means of a hand lever.

The novelty of the machine lies in the combination of pasture rejuvenation and heavy drag harrow on one frame.

The machine was tested on a dry-grass field in a very hard condition. The tines entered the soil well, pulled up moss, etc., and the self-cleaning arrangement functioned admirably. The machine also did good work as a drag cultivator. During the latter tests adjustments of the angle of the tines were easily and rapidly made and it was found that the guiding disc at the rear of the frame served its purpose with effect.

In the opinion of the Judges the machine represents a distinct advance in the application of machinery to agriculture and, as it combines the functions of two machines in one, conduces to the reduction of capital expenditure. For these reasons and because of the excellent performance of the machine under test the award was made.

Cat. No. 1302. *Brine Cooling Plant and Steam Sterilising Boiler for use with Hosier Portable Open Air Milking Plant. Dairying Class.*

This entry comprises a brine cooler for reducing the temperature of milk from cow heat to 40° F. under vacuum, and a specially constructed quick steaming boiler for sterilising churns, utensils and pipe lines in the field. The cooler is suspended from a hook at one end of the milking bail of the portable milking plant and is connected by short pipes to the portable engine shed.

Milk Cooler.—The cooler is in the form of a cylindrical vessel 12 in. diameter and 25 in. long with a hemispherical head. It is fitted at the top with a milk inlet pipe 1 in. diameter and arranged inside the head is an easily detachable strainer 5½ in. diameter and 2 in. deep. The milk issuing from the strainer falls on to a domed plate of large radius which serves to distribute it evenly on to the cooling coil. The coil is in the form of a hollow screw thread wound on a central drum 9 in. diameter and 18 in. long; the brine is led by a suitably placed pipe to the top of the coil through which it circulates and issues by means of a pipe leading from the bottom of the coil and on the opposite side to the inlet pipe. The construction of the coil is ingenious and deserving of comment. In section its form is similar to that of a buttress thread, the slope of the under side of the thread being much greater than that of the upper side. The purpose of this is to ensure that the velocity of the milk flowing over the upper side is sufficiently retarded to enable it to run over the edge of the thread and down the steep side in successive cascades and not in a single cascade from top to bottom as might be the case if the upper side of the thread were too steep. The milk thus comes into contact with the whole of the external surface of the thread, which is thereby used to the greatest advantage. The hemispherical head of the cooler is easily detachable, and the interior of the apparatus is perfectly smooth and free from projections and is thus readily cleaned. Rubber joints are fitted where required to ensure air tightness. An arrangement of cocks in the brine circuit enables the cooler to be emptied of brine before dismantling, thereby avoiding any loss. The use of brine as the cooling medium reduces to a minimum the risk of damage from frost during the winter months.

The tests on this cooler, with a maintained vacuum of 14–15 inches of mercury, showed that it was capable of cooling milk from cow heat to 43° F. at the rate of 59 gallons per hour, this being considerably in excess of the capacity claimed for it, namely, 50 gallons, reducing from cow heat to 40° F. It was found in these tests that it was only necessary to run the engine for from 4 to 8 minutes before milking commenced in order to obtain adequate cooling. There was very little variation in the temperature of the milk obtained from the cooler. The tests also showed that the consumption of fuel by the operating engine was increased by only 0·4 pint of paraffin per hour due to the circulation of brine through the cooler.

The use of the cooler undoubtedly increases the overall efficiency of the open-air milking system. The ability to cool milk without the use of water and without extra handling is of great economic importance. The Judges were pleased to award the Society's Silver Medal for an ingenious, efficient and useful piece of apparatus.

Boiler.—The boiler is built up of two concentric cylinders, the water being contained in the annular space between them; the central tube forms the furnace. The boiler is fired from the top. A semi-rotary hand-pump is provided for the feed water and a suitable gauge glass and safety valve are fitted. The boiler is electrically welded throughout. During the tests which were made the boiler was filled to the level of the top of the gauge glass with water at a temperature of 60° F. The fuel used was old dry ash paling in about two-foot lengths and of total weight about 7 lb. Seventeen minutes after lighting the fire with a piece of oily sacking a pressure of 10 lb. per square inch of steam was recorded, at which point the safety valve blew off. Steam was then used to clean the milking plant. No more fuel was added until an hour and a half had elapsed when approximately 9 lb. of similar fuel was put in the furnace. Water was then drawn off the boiler and used for washing the milking plant, and the pressure remained at 10 lb. per square inch throughout this period. Steam from the boiler was then used to blow through the pipes of the milking plant until the pressure fell to 4 lb. per square inch. The temperature of the steam at the teat cups at the far end of the plant was 211° F. and at the near end 212° F. when they were cleaned before milking commenced. The temperatures were similar during the cleaning process after milking. The tests show, therefore, that the capacity of the boiler is adequate for the purpose for which it is intended. The boiler is cheap to operate and efficient and a valuable addition to the milking plant. It was thought, however, that it was not of sufficient importance to justify an award which, for this entry, is given for the cooler alone.

Cat. No. 1304. *Milking Machine. Dairying Class. (Deferred from Nottingham Show,* 1928.)

The complete milking machine comprises a vacuum pump, two sets of teat cups and two seamless milking cans incorporating pulsators in the lids. A stabilising tank with a draincock is fitted close to the pump. The vacuum pump is of the vertical enclosed type with splash lubrication; the vacuum tank is 35 in. high and 9 in. diameter. The milk can is of spun aluminium, seamless and of 4 gallons capacity. It tapers from 13 in. diameter at the bottom to 7½ in. diameter at the top, is rounded at the bottom and supported on three feet. The pulsator mechanism is fitted to the lid of the milk can. It comprises a piston to which a reciprocating motion is imparted, on the application of the vacuum, by a plunger on each end of a central spindle. A screw adjustment is provided for regulating the pulsations. The manifold or " claw " which connects the pulsator with the teat cups is heavily nickel-plated and is drilled longitudinally for the air and milk passages ; the latter are arranged in such a manner that the pulsations are imparted to the teat cups in pairs. The teat cups consist of a metal and a rubber portion which are easily separated for cleaning ; the outer cup is of copper, ribbed and nickel-plated. A pulsator tube is attached to the outside of the casing and connects to an opening near the top. The liner is of a specially prepared rubber, cylindrical in form, with three spiral ribs moulded on its exterior, the spaces between the ribs being wider at the top than at the bottom. The liner has a large flexible opening at the top for fitting to the teat, this opening serving to retain a reserve of vacuum which holds the teat cup on the teat during milking. It is claimed for the teat cup that the peculiar construction of the rubber liner causes the collapse of the liner to begin at the top and thus to produce a positive downward squeeze on the teat. This device is stated to strip the teat with each pulsation and to milk the cow cleaner and faster than is possible with any other form of teat cup. It is also claimed that the spiral ribs on the rubber serve to reinforce it and, further, as the rubber is not stressed in tension when fitted in the teat cup, it does not absorb butter fats, both these features conducing to an increase in the life of the rubber liner.

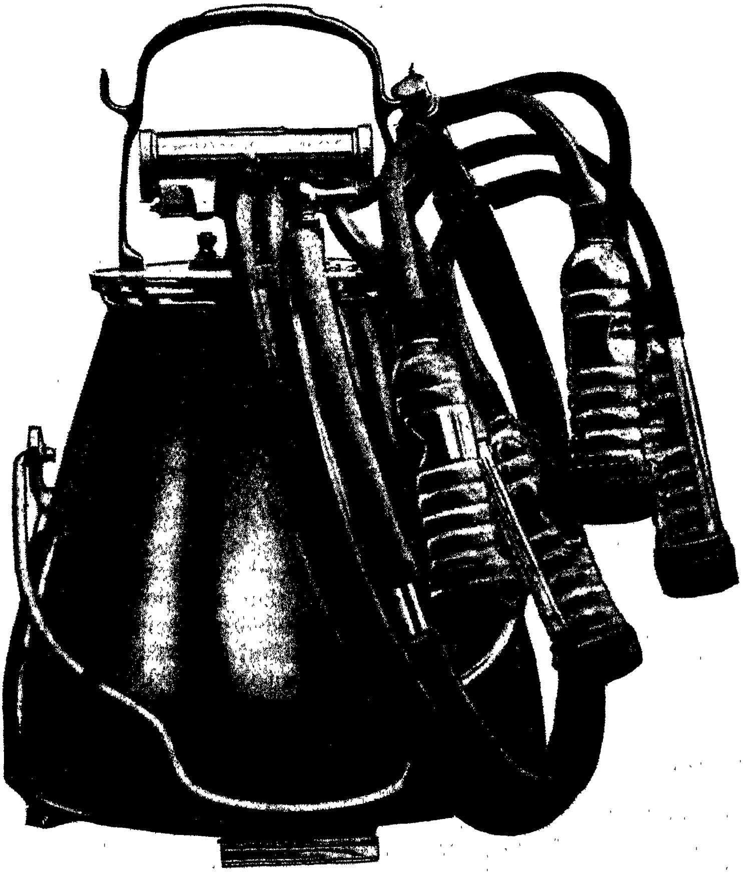

FIG. 5.—Gascoigne's Milking Machine.

The milk tube from the teat cup to the claw is integral with the liner. Two suction tubes, each 3 ft. long, of red rubber, connect the pulsator to the claw. The milk tube is also of rubber and 3 ft. long; it is split near the milk can to take an inspection glass.

In tests which were carried out on this machine it was found to be necessary to employ a vacuum of from 11 to 12 in. and not from 9 to 10 in. as indicated by the makers.

The mechanical parts of the machine worked satisfactorily during tests lasting some months and no undue wear of any part was observed at the completion of the tests. The power required to operate the machine was within that specified. It was found that the machine had no injurious effect on the cows and led to no diminution of the milk yields. The rate at which milking was carried out during the tests was equal to that of first-class hand-milking. The machine gave excellent results provided the units were thoroughly washed and then sterilised by steam. The machine was easily dismantled for cleaning purposes.

The novelty of the plant is the use of a lower vacuum than is usual in this type of machine.

The machine was deferred from the 1927 Show and again from the 1928 Show in order that it could be tested to ascertain whether or not the claims made for it were substantiated. The general excellence of design and construction of the plant, together with the most satisfactory results obtained from experiments lasting over a considerable period, enabled the Judges to make an award.

IMPLEMENTS FOR WHICH NO AWARDS WERE MADE.

Cat. No. 267. *Cattle Drinking Bowl. Barnyard Machinery Class.*

This bowl is of the gravity feed non-return type with a special non-splash lip. The latter, which is the only novel feature, differs from the usual type of non-splash arrangement in that the rim is serrated and slopes inwards and downwards so that any water splashing on to it runs back into the bowl. The bowl is fitted with a non-return valve which is made entirely of brass and which allows water to enter but not to leave the bowl. The water from the tank enters the bowl about 1½ in. from its base, through four ¼-in. diameter holes, so placed that dirt cannot enter the valve. By unscrewing the valve body full access is given to the supply pipe, which is of ¾ in. diameter bore. By screwing down the valve body the water is entirely cut off from the bowl without interfering with the rest of the installation.

The bowl was tested in the following manner: The valve was set for filling and the bowl filled satisfactorily from a reservoir, with a constant head, the level of the top of the water in the reservoir being the same as that of the level of the maximum width of the bowl. The time of filling with a ½-in. supply pipe under constant head was found to be two minutes up to a level 1 in. below the reservoir water-level, after which further filling proceeded slowly. The non-return action of the valve was tested by unscrewing the supply pipe at the base of the reservoir, and the valve was found to be satisfactory. The valve was next screwed down to cut off the supply and the reservoir again connected; no water came through the valve, but a small quantity leaked in at the seating of the valve body in the bowl, due to a slight defect, probably peculiar to the particular bowl submitted. When the bowl was filled to the level of the maximum width the surface of the water was agitated and the non-splash device was quite effective. It was considered that the bowl was easy to clean and that the brass valve could not readily be choked with dirt. The rate of filling is slow compared with the rate at which cattle usually drink, but it is not considered that this is a disadvantage. The bowl being of the gravity feed type necessitates a cistern with a ball cock arranged on the same level as the bowl; if more than one bowl is fitted all the bowls on the system must be at the same level.

Although the data obtained by trial of this bowl substantiated the claims made for it, it was considered that the entry does not indicate any great advance in its application to agriculture, nor is it of much economic importance. No award was made.

Cat. No. 288. *Zigzag Cultivating Harrow. Cultivating Class.*

This machine is a beam harrow with its tines arranged in zigzag formation. Each of the tines is formed with a taper square head ending in a screwed stud and is retained in the harrow frame by a single nut. Renewable cast-steel points are attached to the tine by a single rivet. These special steel points, which are the chief feature of the machine, are made with a broad cutting edge which remains reasonably sharp until the fitting has worn down to the body of the tine. Special reversible steel points are used for the front row straight tines in place of the chisel points. It is claimed for the construction that, as the tines are never subjected to the smithy fire, they retain their strength, and it is further claimed that the harrow can be used with advantage where ordinary harrow teeth will not enter the land.

It was considered that the use of the renewable points did not indicate sufficient material advantage economically or otherwise to be gained by their use, except in a minor degree, and no award was made.

Cat. No. 375. *Bottle Washer. Dairying Class.*

This machine is operated by a small steam turbine working at a pressure of 15 lb. per square inch of steam. A single brush for washing the inside of the bottle is mounted directly on the end of the turbine shaft and runs at a speed of 4,000 r.p.m. When the bottle is placed on the central brush it rests on a nest of revolving brushes, the purpose of which is to clean the outside of the bottle. The external brushes are driven by the bottle itself; they conform to the shape of the outside of the bottle and are contained in a cast-iron casing which forms the body of the machine. The casing is covered with a sheet-metal cover to avoid undue splashing. A further brush is provided to clean the bottom of the bottle. The makers claim that, with practice, 40 to 50 bottles per minute can be washed by this machine. The procedure adopted is as follows: The bottles are placed in a tank filled with warm water containing soda, the tank being placed near the machine. The operator lifts a bottle full of soda solution, places it on the central brush of the machine, removes it, pours out the water remaining in the bottle and places it on a rinsing machine.

For the purpose of testing the machine bottles were collected over a period of several days and during the operation of washing they offered a severe test to the machine. Afterwards, further bottles which had been standing for 3, 2 and 1 day were obtained, divided into groups and allowed to soak in the washing solution. It was only found possible to clean per minute about half the number of bottles claimed by the manufacturers. It was established to be extremely unlikely that bottles could be efficiently washed at the rate of 40 to 50 per minute even by an experienced operator. It was thought that the external brushes should be made to offer more resistance to the bottle in order to assist the work of the internal brush and that this could be obtained by driving the brushes positively.

It was considered that, at the price offered, the machine would be of service to the small dairy farmer, particularly if used intelligently.

No award was made.

Cat. No. 547. *Manure Distributor. Cultivating Machinery Class.*

This distributor is of the single-roller type, the roller being of steel. The chief feature of the machine is the provision of short lengths of chain so suspended as to lie on the roller with the object of preventing irregular discharge of the manure when the distributor is bumping over rough ground. The machine is designed to sow all kinds of manures in varying quantities, and is so arranged that the working parts, including the feed slide, which is easily removed, can be cleaned in a few minutes.

Exhaustive tests were carried out on this machine using neutral sulphate of ammonia and superphosphate with the object of determining the regularity of distribution. Tests were also made to determine the rates of distribution with various settings of the adjustable slide, and also with the hopper tilted back relative to the shafts. Determinations were made of the distribution both laterally and along the direction of motion of the machine.

The results of the tests indicated that the general performance of the machine did not reach a high standard, and the Judges were, therefore, unable to make an award.

Cat. No. 805. *Rapid Motor Mower. Harvesting Class.*

This machine is a dual-purpose machine designed primarily as a mower unit in which the power-driven cutter is carried in front of the machine. It is claimed by the manufacturers that the construction has considerable advantages over the usual form, the chief of these being: mowing can be commenced immediately without first using the scythe, the cut is uniform and close to the ground; mowing can be done close to trees and other obstacles; and mowing on marshy and boggy ground is possible. The engine unit can also be adapted to a variety of purposes, for example: stationary engine work, as a tractor with caterpillar attachment for ploughing, and as a cable-ploughing unit. The machine is fitted with two land wheels, an extra pair being supplied for attachment during transport. The prime mover is a 5 H.P. M.A.G. petrol engine, fitted with overhead inlet valve and side exhaust valve, Bosch magneto, Solex carburettor and pump lubrication. The machine is fitted for grease gun lubrication throughout. The knife actuating mechanism is covered by a sheet metal guard which is given a rapid reciprocating motion at the nose and serves as a deflector for the grass. There is no governor on the engine and the speed can be varied by a throttle lever mounted on one of the two handles provided for guiding the machine. Each land wheel is fitted with a separate clutch controlled by a lever fitted on each handle. Quick turning is effected by de-clutching on one side or other as desired. During test the engine worked well under full load; the consumption of petrol was ·25 gallon per hour when working at a speed of 2 miles an hour. The field in which the tests were made was very uneven, but the machine followed the contour of the ground cutting evenly and negotiating a slope of 1 in 4 without special strakes being fitted to the land wheels. One acre of land was covered in one hour. At a demonstration on the Showground it was evident that the vibration set up by the engine and transmitted to the steering handles was excessive and would undoubtedly cause considerable strain on the operator even if the machine were only used for a short day's work. Owing to the form in which the grass is left by this machine, it would appear to be necessary for it to be followed by a different type of machine than is at present available in this country for dealing with the swath. For these reasons, and for the further reason that the machine could have only a limited application in this country, no award was made.

Cat. No. 1492. *Poultry House Ventilator. Farm Improvements Class.*

This ventilator is in the form of a wood ventilator capping fixed immediately above the apex of the roof, which is slotted from end to end. The exterior of the poultry house communicates with the throat of the Venturi formed by the roof and the underside of the capping. It is claimed for the ventilator that it provides a constant flow of fresh air without draughts and prevents any ingress of rain in whatever direction it is blown on to the roof.

Tests were made in a small poultry house, in which the device had been fitted, on a day when the wind was gusty, varying in velocity up to 8 m.p.h. maximum. A sensitive anemometer and smoke were used to indicate the direction of the flow of air. Experiments were carried out with the poultry house parallel to the wind and later with the house turned at right angles to the wind direction. The tests established that the device is undoubtedly more efficient than the old parallel cone type, but less effective than the rotating suction type. The price, however, is only one shilling per foot run, and this must be taken into account when considering what form of ventilation is to be used in any particular case.

The device offers a cheap means of effecting reasonably good ventilation, but, in the opinion of the Judges, was not of sufficient merit to justify an award.

GENERAL REMARKS.

The modification of the conditions governing the award of the Society's Silver Medal has had the expected result of eliminating what may be termed the trivial or "frivolous" entries; consequently there has been a reduction in the total number of entries and, therefore, an increase in the ratio of the number of awards to entries. It is apparent from the standard of the implements submitted that the manufacturers appreciate that the value of the medal (as now awarded) is enhanced by the fact that the award includes a consideration of the results of tests (where possible) of actual performance of the implement.

It is still evident that in some cases manufacturers are not taking full advantage of modern methods of production and materials, and there is room for much improvement in the protection and lubrication of working parts, particularly in the case of farming and harvesting machines.

The departure from an old established system of arranging gears and the employment of a method which has been found in other branches of engineering to be essential to successful operation is welcomed in the Bamlett mowing machine. The removal of the initial driving gear from the prime mover (in this case the land wheel) and the mounting of it on a separate bearing, combined with the employment of what is, in effect, a flexible coupling between the prime mover and the gear, constitutes an arrangement which is sound engineering practice and conducive to less wear and tear, less noise and greater freedom from fracture. The same arrangement could be usefully employed in other types of agricultural machinery with advantage. Slight as the difference in arrangement may seem, at first sight, there is no question of the superiority of the new method and this will be evident to engineers who have had experience with both arrangements.

The Judges desire to record their appreciation of the assistance afforded them by the Society's Consulting Engineer; they also wish to express their satisfaction with the particulars of tests furnished by the Institute of Agricultural Engineering, Oxford, which enabled a very critical examination to be made of the various new implements on the Showground; these results, in some cases, provided the only evidence on which the merits of the implement could be rightly judged.

JAS. H. HYDE.

The National Physical Laboratory,
Teddington.

REPORT OF THE STEWARD OF DAIRYING, HARROGATE SHOW, 1929.

MILK YIELD TRIALS

(CATTLE, CLASSES 213 TO 223).

THESE trials were carried out in the Showyard at Harrogate on the same lines as in recent years, exhibitors being allowed to milk their cows twice or thrice during the 24 hours of the test, as they desired.

The times and arrangements under which the trials were conducted were those adopted by Mr. Ernest Mathews, Steward of Dairying in 1928 and for many years previous, and whose retirement through failing eyesight is so much regretted by all who are interested in these events. The Champion Prizes which are offered by a Society interested in the production of milk were awarded as under :—

CLASS A, for Dairy Shorthorn, Lincolnshire Red Shorthorn, South Devon, Red Poll, Blue Albion and British Friesians.—Champion Prize, £30, to Mr. E. G. Barton's British Friesian Cow "Chaddesley Hedge Rose 2nd," who improved her fine record at Nottingham with a yield of 103 lb., a tribute alike to the constitution and milking powers of this cow, and to the management of her owner, who both fed and milked his cow himself; her live weight was just under 13 cwt. and her butter fat percentage was 4·17 per cent. Reserve No., £5, to Major C. F. Case's British Friesian "Blickling Mist," with a yield of 78 lb. 4 oz.

CLASS B, for Ayrshire, Jersey or Guernseys.—Champion Prize, £20, to Mr. David Wallace's Ayrshire Cow "Auchenbrain Big Kate 13th," who likewise excelled her good performance at Nottingham with a yield of 69 lb. 12 oz. with a butter fat percentage of 3·83, her live weight being just under 11½ cwt. Reserve No., £5, to Mr. Frank Barker's Ayrshire "Hall Flora," with a yield of 70 lb. 4 oz., fat percentage 3·57.

CLASS C, for Kerry and Dexters.—Champion Prize, £10, to the Kerry Cow "Hattingley Belle," shown by Capt. Nelson Zambra and Mr. C. Williamson Milne, which, with a live weight of just over 9 cwt., gave the fine yield of 68 lb. 4 oz., as compared with 63 lb. 12 oz. at Nottingham. The Reserve No., £5, went to Mr. John W. Towler's Kerry "Wadlands Clover," with a yield of 42 lb. 12 oz.

It will be noted that out of 109 entries only 70 cows eventually competed for the Milk Yield prizes.

Full details of the Trials, with the Prizes awarded, appear in Table I, whilst in Table II are shown the average results of the different breeds, as competing in the Showyard.

TABLE I.—MILK YIELD CLASSES AT 1929 SHOW.

No. in Catalogue	Exhibitor	Name of Cow	Live weight	Date of birth	Date of last calf	No. of days in milk	Date of last Service	Milk Yield				Average Fat percentage	Points				Awards and Remarks
								Morning	Noon	Evening	Total		Milk	Average Fat per cent. × 4	Lactation	Total	
			Lb.		1929		1929	Lb. oz.	Lb. oz.	Lb. oz.	Lb. oz.						
Class 213		**Dairy Shorthorns, Thrice Milked.**															
1185	Debenham & Tory	Anderson Red Rose 2nd	1673	May 21, 1922	May 22	49	—	17 12	16 8	17 4	51 8	3·27	51·50	13·08	0·90	65·48	Fifth Prize.
1208	T. W. Montague Perkins	Holmelacy Flash	1344	June 3, 1923	May 19	52	—	17 4	15 12	19 12	52 12	2·10	52·75	8·40	1·20	62·35	Fat below Standard
1213	Wm. Curtis & Son	Rainham Barrington	1260	Nov. 25, 1924	Mar. 27	105	—	15 4	12 12	15 4	43 4	2·92	43·25	11·68	5·00	59·93	Fat below Standard
1219	Alfred Luckin	Orfold Barrington Duchess 2nd	1456	Oct. 4, 1924	May 28	43	—	27 12	20 0	22 8	70 4	3·33	70·25	13·32	0·30	83·87	First Prize
1226	Eustace Abel Smith	Longhills Conishead Waterloo	1421	April 22, 1924	May 7	64	—	23 0	21 0	20 8	64 8	2·67	64·50	10·68	2·40	77·58	Fat below Standard
1237	G. P. Golden	Lady Doreen 17th	1484	April 25, 1925	June 1	39	—	25 4	16 12	20 0	62 0	3·42	62·00	13·68	Nil	75·68	Second Prize
		Dairy Shorthorns. Twice Milked.															
1200	Sir Wm. Hicking, Bt.	Brackenhurst Jean	1512	June 21, 1923	May 10	61	—	20 0	—	19 4	39 4	3·02	39·25	12·08	2·10	53·43	—
1202	G. W. Isherwood	Kelmscott Primula 189th	1134	Dec. 29, 1923	June 12	28	—	27 4	—	25 8	52 12	3·97	52·75	15·88	Nil	68·63	Third Prize
1215	Sir Wm. Hicking, Bt.	Martley Barrington	1274	Feb. 21, 1925	June 18	22	—	29 4	—	21 0	50 4	3·00	50·25	12·00	Nil	62·25	Reserve Number
1217	Sir Wm. Hicking, Bt.	Overpeover Fragrance	1407	April 20, 1924	May 10	61	—	27 8	—	24 0	51 8	3·12	51·50	12·48	2·10	66·08	Fourth Prize
1245	Major G. Miller Mundy	Bella Do	1477	June 7, 1925	April 25	76	—	21 4	—	21 8	42 12	2·04	42·75	9·60	3·60	55·95	Fat below Standard
Class 214		**Lincolnshire Red Shorthorns. Thrice Milked.**															
1307	B. J. Bowser	Scothern Jessie 6th	1407	May 1, 1923	May 20	51	—	27 0	22 12	19 12	69 8	4·03	69·50	16·12	1·10	86·72	First Prize
1309	John Evens & Son	Burton Jewess th	1736	Oct. 17, 1923	June 12	28	—	26 8	22 0	20 12	69 4	3·75	69·25	15·00	Nil	84·25	Third Prize
1313	John Evens & Son	Burton Amy 10th	1696	Feb. 21, 1919	May 7	64	—	25 4	24 12	21 12	71 12	2·68	71·75	10·72	2·40	84·87	Fat below Standard
1314	John Evens & Son	Burton Fillpail 7th	1666	June 26, 1922	June 5	85	—	19 0	16 12	16 8	52 4	4·22	52·25	16·88	Nil	69·13	Reserve Number
1316	Russell Wood	Bendish Pansy 8th	1456	Oct. 18, 1922	May 26	45	—	19 8	17 8	18 8	55 8	4·05	55·50	16·20	0·50	72·20	Fourth Prize
1317	Russell Wood	Bendish Sunbeam 6th	1862	Dec. 20, 1921	June 23	17	—	25 8	20 8	23 0	69 0	3·93	69·00	15·72	Nil	84·72	Second Prize
Class 215		**South Devons. Thrice Milked.**															
1339	Walter Hunt	Empress	1568	June 20, 1922	April 25	76	June 24	28 4	20 0	17 12	66 0	4·08	66·00	16·32	3·60	85·92	First Prize
1349	John Wakeham	Pearl 3rd	1617	Oct. 12, 1919	June 8	32	—	21 12	17 12	20 0	59 8	3·95	59·50	15·80	Nil	75·30	Second Prize
Class 216		**Red Polls. Thrice Milked.**															
1374	Sir Merrik R. Burrell, Bt.	Knepp Lilac 6th	1260	June 12, 1923	May 12	59	—	23 12	17 8	17 8	58 12	3·67	58·75	14·68	1·90	75·33	Third Prize
1377	Major J. G. Dugdale	Hardwick Myrtle	1246	Mar. 3, 1923	June 21	19	—	19 12	16 8	18 8	54 12	3·28	54·75	13·12	Nil	67·87	H.C.
1378	Major J. G. Dugdale	Kirton Sophie	1113	May 21, 1920	June 2	38	—	24 12	20 8	15 12	61 0	3·45	61·00	13·80	Nil	74·80	Fourth Prize
1379	Mrs. M. M. Fitzgerald	Antwick Rosalind	1414	July 26, 1919	May 6	65	—	19 0	17 0	18 0	54 0	3·10	54·00	12·40	2·50	68·90	H.C.

TABLE I.—MILK YIELD CLASSES AT 1929 SHOW (*continued*).

No. in Catalogue	Exhibitor	Name of Cow	Live weight	Date of birth	Date of last calf	No. of days in milk	Date of last Service	Milk Yield								Average Fat percentage	Points				Awards and Remarks
								Morning		Noon		Evening		Total			Milk	Average Fat per cent. x 4	Lactation	Total	
			Lb.		1929		1929	Lb.	oz.	Lb.	oz.	Lb.	oz.	Lb.	oz.						
		Red Polls. Thrice Milked.																			
1380	Viscount Folkestone	Longford Symphony	1344	April 21, 1923	May 13	58	June 29	24	0	19	12	20	4	64	0	3·20	64·00	12·80	1·80	78·60	Second Prize
1381	John George Gray	Upton Fancy	1302	Mar. 8, 1923	May 8	63	—	14	4	12	12	10	8	37	8	2·77	37·50	11·08	2·30	50·88	Fat below Standard
1387	Capt. Alan Richardson	Seven Springs Quest	1330	Feb. 25, 1921	June 11	29	—	22	0	15	0	17	12	54	12	3·93	54·75	15·72	Nil	70·47	Reserve Number
1393	Major J. G. Dugdale	Whiteway Win	1232	May 19, 1925	June 5	35	—	18	8	14	0	17	0	49	8	3·42	49·50	13·68	Nil	63·18	H.C.
1394	Viscount Folkestone	Longford Columbine 2nd	1344	Aug. 6, 1924	Mar. 20	112	—	19	4	15	4	16	12	51	4	3·67	51·25	14·68	5·00	70·93	Fifth Prize
1395	Mrs. R. M. Foot	Basildon Rosemary 2nd	1127	Feb. 18, 1924	April 30	71	—	27	0	20	8	23	0	70	8	3·45	70·50	13·80	3·10	87·40	First Prize
		Red Polls. Twice Milked.																			
1404	J. Lawrence Pilling	North Rode Flora	1274	Jan. 2, 1924	May 26	45	—	23	4	—		21	12	45	0	2·65	45·00	10·80	0·50	56·10	Fat below Standard
Class 217		**Blue Albions. Thrice Milked.**																			
1458	John W. Towler	Bramshall Gay Lass	1344	Sept. 30, 1925	April 12	89	—	8	8	8	12	10	8	28	12	2·92	28·75	11·68	4·90	45·33	Fat below Standard
		Blue Albions. Twice Milked.																			
1449	Arnold Gillett	Ringwood of Ridgewood	1246	Sept. 23, 1923	June 17	23	—	19	0	—		18	12	37	12	3·50	37·75	14·00	Nil	51·75	—
1454	R. H. A. Holbech	Seagry Melody	1316	Unknown	June 1	39	—	28	8	—		25	8	54	0	3·05	54·00	12·20	Nil	66·20	Second Prize
1456	B. W. Smith	Elsenham Patricia	1491	Unknown	May 14	57	—	26	0	—		24	12	50	12	2·30	50·75	9·20	1·70	61·65	Fat below Standard
1457	T. H. Swire & Sons	Park Rose	1239	Unknown	June 4	36	—	20	4	—		25	4	54	8	3·65	54·50	14·60	Nil	69·10	First Prize
Class 218		**British Friesians. Thrice Milked.**																			
1528	Edward G. Barton	Chaddesley Hedge Rose 2nd	1442	April 16, 1923	June 2	38	—	40	4	30	0	32	12	103	0	4·17	103·00	16·68	Nil	119·68	First Prize and Champion (A)
1529	Major C. F. Case	Blickling Mist	1498	Sept. 6, 1923	Mar. 15	117	June 7	30	4	22	8	25	8	78	4	3·37	78·25	13·48	7·70	99·43	Second Prize and Reserve Champion (A)
1530	Capt. John Christie, M.C.	Homestall Disley	1582	May 20, 1923	June 9	31	—	22	0	22	4	21	8	65	12	3·27	65·75	13·08	Nil	78·83	Fifth Prize
1531	A. Norman Dugdale	Thurston Karel Virginia 2nd	1638	Sept. 13, 1922	May 16	55	—	27	8	22	8	24	4	74	4	2·87	74·25	11·48	1·50	87·23	Fat below Standard
1532	F. W. Gilbert	Hache Amethyst	1603	Jan. 25, 1923	June 22	18	—	31	4	25	8	29	8	86	4	3·07	86·25	12·28	Nil	98·53	Third Prize.
1534	Mrs. S. Johnson	Newhall Comely	1330	Feb. 18, 1923	May 31	40	—	21	4	23	8	26	0	70	12	2·57	70·75	10·28	Nil	81·03	Fat below Standard
1536	Miss E. Martin Smith	Felhampton Ellen	1456	Aug. 23, 1922	June 22	18	—	30	0	26	4	27	4	83	8	2·78	83·50	11·12	Nil	94·62	Fat below Standard
1543	W. & R. Wallace	Knebworth Gladness	1491	Dec. 31, 1923	May 4	67	May 28	28	8	21	4	27	12	77	8	1·15	77·50	4·60	2·70	84·80	Fat below Standard
1545	Wm. Curtis & Son	Ranfurly Mattie	1330	Feb. 1, 1924	May 2	69	—	24	0	18	8	24	8	67	0	3·40	67·00	13·60	2·90	83·50	Fourth Prize
1546	F. W. Gilbert	Hache Belle	1547	April 8, 1924	June 21	19	—	21	4	17	8	20	8	59	4	2·50	59·25	10·00	Nil	69·25	Fat below Standard
Class 219		**Ayrshires. Thrice Milked.**																			
1631	Frank Barker	Hall Flora	1190	April 8, 1922	June 10	30	—	22	8	23	0	24	12	70	4	3·57	70·25	14·28	Nil	84·53	Second Prize and Reserve Champion (B)

1635	John N. Drummond	Bargower Silver Bell 5th	1036	Mar. 5, 1924	June 16	24	—	23 0	21 4	23 4	67 8	3·23	67·50	12·92	Nil	80·42	Third Prize
1636	Wm. L. Ferguson	Catlinns Pearl	1211	April 25, 1923	June 14	26	—	14 4	12 12	13 12	40 12	4·73	40·75	18·92	Nil	59·67	Reserve Number
1640	A. & A. Kirkpatrick	Barr Irish Girl	1102	Mar. 5, 1925	May 27	44	—	22 0	21 4	20 12	64 0	2·70	64·00	10·80	0·40	75·20	Fat below Standard
1641	A. & A. Kirkpatrick	Barr June	1078	June 6, 1925	May 22	49	—	18 4	20 8	20 0	58 12	2·35	58·75	9·40	0·90	69·05	Fat below Standard
1644	Commander B. W. B. Leake	Dalgig Lily 3rd	1239	Mar. 20, 1925	June 17	23	—	24 4	20 8	20 12	65 8	3·32	65·50	13·28	Nil	78·78	Fourth Prize
1646	Alexander McFarlane	Burnside White Queen	1393	Feb. 22, 1918	June 14	26	—	20 4	18 0	19 0	57 4	3·82	57·25	15·28	Nil	72·53	Fifth Prize
1653	David Wallace	Auchenbrain Big Kate 13th	1274	Feb. 22, 1923	June 2	38	—	29 12	20 8	19 8	69 12	3·83	69·75	15·32	Nil	85·07	First Prize and Champion (B)
Class 220		Guernseys. Thrice Milked.															
1696	George Blight	Jane of Tregonning 7th	1113	April 30, 1923	May 2	69	—	22 8	17 8	19 8	59 8	4·00	59·50	16·00	2·00	78·40	First Prize
1698	W. Dunkels	Fernhill Rose	1155	Aug. 8, 1923	April 5	96	June 27	19 8	13 8	15 4	48 4	3·93	48·25	15·72	5·60	69·57	Second Prize
Class 221		Jerseys. Thrice Milked.															
1788	Sir Harold Mackintosh	Flotsam Twin	812	Jan. 8, 1923	May 14	57	—	8 0	6 4	7 4	21 8	9·93	21·50	39·72	1·70	62·92	Third Prize
1790	Sir Harold Mackintosh	Lydia	945	Nov. 13, 1922	Mar. 28	104	June 7	20 12	16 8	18 0	55 4	3·98	55·25	15·92	6·40	77·57	First Prize
1802	Cortlandt Taylor	Nobody's Pet	812	May 16, 1922	Mar. 25	107	—	15 4	12 0	16 8	43 12	3·80	43·75	15·20	5·00	63·95	Second Prize
		Jerseys. Twice Milked.															
1794	J. Pierpont Morgan	Nona	931	April 21, 1925	May 5	66	June 30	20 12	—	18 8	39 4	4·36	39·25	17·40	2·60	59·25	Fourth Prize
1800	Mrs. E. K. Staines	Xenia's Canterbury Belle	868	May 9, 1925	May 13	58	—	14 8	—	15 12	30 4	4·55	30·25	18·20	1·80	50·25	—
1814	Mrs. E. K. Staines	Sultan's Una	840	May 22, 1920	May 10	61	—	19 0	—	17 0	36 0	5·25	36·00	21·00	2·10	59·10	Fifth Prize
Class 222		Kerrys. Thrice Milked.															
1858	T. F. Adamson	Wadlands Waterville	1015	Oct. 26, 1922	June 20	20	—	12 0	14 0	12 4	38 4	4·27	38·25	17·08	Nil	55·33	Reserve Number
1862	Elmhurst Farming & Trading Co., Ltd.	Valencia Una	1043	April 8, 1922	May 17	54	—	16 12	16 12	16 12	50 4	2·97	50·25	11·88	1·40	63·53	Fat below Standard
1865	John W. Towler	Vaddy Trent 4th	882	Mar. 26, 1918	May 22	49	—	14 12	11 12	13 8	40 0	3·73	40·00	14·02	0·90	55·82	Third Prize
1866	John W. Towler	Wadlands Clover	994	May 13, 1921	May 10	61	—	13 8	14 12	14 8	42 12	3·80	42·75	15·20	2·10	60·05	Second Prize and Reserve Champion (C.) and Reserve for Elmhurst Cup
1867	John W. Towler	Wadlands Drops	1078	Aug. 27, 1920	June 18	22	—	14 8	12 0	13 12	40 4	3·15	40·25	12·60	Nil	52·85	H.C.
1868	Capt. Nelson Zambra and C. Williamson Milne	Hattingley Belle	1015	May 6, 1923	May 11	60	—	25 4	21 0	22 0	68 4	3·10	68·25	12·40	2·00	82·65	First Prize and Champion (C) and Elmhurst Cup
Class 223		Dexters. Twice Milked.															
1893	Miss Dora Box	Wightwick Dolly 2nd	630	June 2, 1925	May 11	60	June 13	15 4	—	14 0	29 4	3·15	29·25	12·60	2·00	43·85	Second Prize and Reserve for Dexter S.C. Cup
1894	Miss Dora Box	Wightwick Girlie 3rd	686	Mar. 31, 1925	May 8	63	June 6	9 8	—	7 8	17 0	4·27	17·00	17·08	2·30	36·38	—
1898	Lady Loder	Grinstead Convolvulus	700	Nov. 22, 1923	Mar. 30	102	June 24	16 12	—	13 12	30 8	3·47	30·50	13·88	6·20	50·58	First Prize and Dexter S.C. Cup

TABLE II.—*Average Results obtained from Cows of different Breeds in the Milk Yield Classes.*

No. of Cows Competing	Breed	Live Weight	Days in Milk	Yield of Milk	Fat per cent.	Points
		Cwt. qr. lb.		Lb. oz.		
11	Dairy Shorthorn . . .	12 2 4	55	52·11	3·02	66·48
6	Lincoln Red	14 1 24	40	64·9	3·78	80·24
2	South Devon	14 0 24	54	62·12	4·01	80·61
11	Red Poll	11 1 11	54	54·10	3·33	69·49
5	Blue Albion	11 3 11	49	45·2	3·08	58·81
10	British Friesian . . .	13 1 8	47	76·6	2·91	89·70
8	Ayrshire	9 2 9	32	61·11	3·44	75·66
2	Guernsey	10 0 14	82	53·14	3·96	73·98
6	Jersey	7 3 0	75	37·10	5·31	62·17
6	Kerry	8 3 24	44	46·10	3·50	61·70
3	Dexter	6 0 0	75	25·9	3·63	43·60

In considering the above Table it must always be remembered that the results are obtained under abnormal conditions, *i.e.*, those which prevail in any showyard, which may account for disappointing yields and qualities in some cases; for instance, one British Friesian gave milk with as low a percentage of butter fat as 1·15 per cent., whilst a Jersey gave milk with a butter fat content of 9·93 per cent. These abnormal yields, of course, seriously affect the average figures, especially where but a small number of cows are competing.

It is interesting to notice that all the Lincoln Reds, South Devons, Red Polls (with one exception), British Friesians, Ayrshires, Guernseys and Kerrys were milked thrice in 24 hours, whilst the Dexters and Blue Albions (with one exception) were "twice milkers."

Comparisons as between twice and thrice milking can therefore be drawn only in the case of the Dairy Shorthorns and Jerseys, and these figures are shown in Table III.

TABLE III.—*Average Results of Cows milked Twice or Thrice daily in the Milk Yield Classes.*

Breed	No. of Cattle	Live Weight	Days in Milk	Milk Yield	Fat per cent.	Points
		Cwt. qr. lb.		Lb. oz.		
Dairy Shorthorn.						
Twice milked . . .	5	12 0 17	50	47 5	3·10	61·29
Thrice ,, . . .	6	12 3 11	59	57 6	2·95	74·15
Jersey.						
Twice milked . . .	3	7 3 12	62	35 3	4·72	56·20
Thrice ,, . . .	3	7 2 16	89	40 3	5·90	68·15

TABLE IV.—RESULTS OF BUTTER TESTS AT HARROGATE, 1929.

CLASS 224A.—COWS EXCEEDING 900 LB. LIVE WEIGHT.

No. in Catalogue	Exhibitor	Name of cow	Live weight	Date of birth	Date of last calf	No. of days in milk	Date of last Service	Milk yield in 24 hours	Butter yield	Ratio viz. lb. milk to lb. butter	No. of points for butter	No. of points for period of lactation	Total No. of points	Awards and Remarks
		Dairy Shorthorns. Thrice Milked.	Lb.		1929		1929	Lb. oz.	Lb.oz.					
1185	Debenham & Tory	Anderson Red Rose 2nd	1673	May 21, 1922	May 22	49	—	51 8	1 4¾	39·72	20·75	0·90	21·65	Ratio over 30
1208	T. W. Montague Perkins	Holmelacy Flash	1344	June 23, 1923	May 19	52	—	52 12	0 13¾	61·36	13·75	1·20	14·95	Ratio over 30
1218	Wm. Curtis & Son	Rainham Barrington	1260	Nov. 25, 1924	Mar. 27	105	—	43 4	1 4½	33·75	20·50	5·00	25·50	Ratio over 30
1226	Eustace Abel Smith	Longhills Conishead Waterloo	1421	April 22, 1924	May 7	64	—	64 8	1 6¼	46·38	22·25	2·40	24·65	Ratio over 30
		Lincolnshire Red Shorthorns. Thrice Milked.												
1807	B. G. Bowser	Scothern Jessie 6th	1407	May 1, 1923	May 20	51	—	69 8	2 14¼	24·04	46·25	1·10	47·35	Fourth Prize
1809	John Evens & Son	Burton Jewess 5th	1736	Oct. 17, 1923	June 12	28	—	69 4	2 1¾	32·82	33·75	Nil	33·75	Ratio over 30
1811	B. G. Bowser	Scothern Betty 5th	1659	April 4, 1922	June 19	21	—	56 4	1 13	31·02	29·00	Nil	29·00	Ratio over 30
1813	John Evens & Son	Burton Amy 10th	1596	Feb. 21, 1919	May 7	64	—	71 12	1 14	38·26	30·00	2·40	32·40	Ratio over 30
1814	John Evens & Son	Burton Fillpail 7th	1666	June 26, 1922	June 5	35	—	52 4	1 12¾	29·06	28·75	Nil	28·75	—
1816	Russell Wood	Bendish Pansy 8th	1456	Oct. 18, 1922	May 26	45	—	55 8	1 15½	28·18	31·50	0·50	32·00	—
1817	Russell Wood	Bendish Sunbeam 6th	1862	Dec. 20, 1921	June 23	17	—	69 0	2 13¾	24·12	45·75	Nil	45·75	Fifth Prize
		Longhorns. Twice Milked.												
937	F. J. Mayo	Friar Spark	1407	In 1920	June 4	36	—	52 8	2 7	21·52	39·00	Nil	39·00	—
		South Devons. Thrice Milked.												
1839	Walter Hunt	Empress	1568	June 20, 1922	April 25	76	June 24	66 0	2 13¾	23·08	45·75	3·60	49·35	Third Prize
1842	John Wakeham	Pearl 3rd	1617	Oct. 12, 1919	June 8	32	—	59 8	2 3¾	26·62	35·75	Nil	35·75	—
		Red Polls. Thrice Milked.												
1874	Sir Merrik R. Burrell, Bt.	Knepp Lilac 6th	1260	June 12, 1923	May 12	59	—	58 12	2 3¼	26·66	35·25	1·90	37·15	—
1879	Mrs. M. M. Fitzgerald	Antwick Rosalind	1414	July 26, 1919	May 6	65	—	54 0	1 12	30·84	28·00	2·50	30·50	Ratio over 30
1880	Viscount Folkestone	Longford Symphony	1344	April 21, 1923	May 13	58	June 29	64 0	1 15¾	32·24	31·75	1·80	33·55	Ratio over 30
1887	Capt. Alan Richardson	Seven Springs Quest	1330	Feb. 25, 1921	June 11	29	—	54 12	2 2¾	25·20	34·75	Nil	34·75	—
1893	Major J. G. Dugdale	Whiteway Win	1232	May 19, 1925	June 5	35	—	49 8	1 2¾	27·54	18·75	Nil	18·75	—
1894	Viscount Folkestone	Longford Columbine 2nd	1344	Aug. 6, 1924	Mar. 20	112	—	51 4	1 15¾	25·82	31·75	5·00	36·75	—
1895	Mrs. R. M. Foot	Basildon Rosemary 2nd	1127	Feb. 18, 1924	April 30	71	—	70 8	2 2¾	32·46	34·75	3·10	37·85	Ratio over 30

TABLE IV.—*continued.*

		Blue Albions. Twice Milked.														
1449	Arnold Gillett . .	Ringwood of Ridgewood .	1246	Sept. 23, 1923	June 17	23	—	37	12	1	4¼	20·82	20·25	Nil	20·25	—
1457	T. H. Swire & Sons	Park Rose	1239	Unknown	June 4	36	—	54	8	1	8½	35·58	24·50	Nil	24·50	Ratio over 30
		British Friesians. Thrice Milked.														
1528	Edward G. Barton .	Chaddesley Hedge Rose 2nd	1442	April 16, 1923	June 2	38	—	103	0	4	5	23·88	69·00	Nil	69·00	First Prize
1529	Major C. F. Case .	Blickling Mist	1498	Sept. 6, 1923	Mar. 15	117	June 7	78	4	2	12¼	28·28	44·25	7·70	51·95	Second Prize
1530	Capt. John Christie	Homestall Disley . . .	1582	May 20, 1923	June 9	31	—	65	12	2	0	32·86	32·00	Nil	32·00	Ratio over 30
1531	A. Norman Dugdale	Thurston Karel Virginia 2nd	1638	Sept. 13, 1922	May 16	55	—	74	4	2	5½	31·68	37·50	1·50	39·00	Ratio over 30
1536	Miss E. Martin Smith	Felhampton Ellen . . .	1456	Aug. 23, 1922	June 22	18	—	83	8	2	2¾	38·44	34·75	Nil	34·75	Ratio over 30
1543	W. & R. Wallace .	Knebworth Gladness . .	1491	Dec. 31, 1923	May 4	67	May 28	77	8	0	14¼	87·00	14·25	2·70	16·95	Ratio over 30
1545	Wm. Curtis & Son .	Ranfurly Mattie . . .	1330	Feb. 1, 1924	May 2	69	—	67	0	2	7	27·48	39·00	2·90	41·90	—
		Ayrshires. Thrice Milked.														
1635	John M. Drummond	Bargower Silver Bell 5th .	1036	Mar. 5, 1924	June 16	24	—	67	8	1	12½	35·88	28·50	Nil	28·50	Ratio over 30
1636	W. L. Ferguson .	Catlinns Pearl	1211	April 25, 1923	June 14	26	—	40	12	1	10½	24·60	26·50	Nil	26·50	—
1640	A. & A. Kirkpatrick	Barr Irish Girl	1162	Mar. 5, 1925	May 27	44	—	64	0	1	13¾	34·42	29·75	0·40	30·15	Ratio over 30
1641	A. & A. Kirkpatrick	Barr June	1078	June 6, 1925	May 22	49	—	58	12	1	8	30·16	24·00	0·90	24·90	Ratio over 30
1645	Alexander McFarlane	Burnside White Queen .	1393	Feb. 22, 1918	June 14	26	—	57	4	1	12¾	31·86	28·75	Nil	28·75	Ratio over 30
1653	David Wallace . .	Auchenbrain Big Kate 13th	1274	Feb. 22, 1923	June 2	38	—	69	12	2	7½	28·24	39·50	Nil	39·50	—
		Guernseys. Thrice Milked.														
1696	George Blight . .	Jane of Tregonning 7th .	1113	April 30, 1923	May 2	69	—	59	8	2	10¼	22·52	42·25	2·90	45·15	Reserve Number
		Jerseys. Thrice Milked.														
1790	Sir Harold Mackintosh	Lydia	945	Nov. 13, 1922	Mar. 28	104	June 7	55	4	2	6¼	23·10	38·25	6·40	44·65	E.J.C.S. Gold Medal
		Jerseys. Twice Milked.														
1794	J. Pierpont Morgan	Nona	931	April 21, 1925	May 5	66	June 30	39	4	1	14¼	20·76	30·25	2·60	32·85	—
		Kerries. Thrice Milked.														
1864	Kerry Estates, Ltd.	Valencia Sunflower . .	1092	Mar. 18, 1921	June 7	33	—	51	8	1	6½	36·62	22·50	Nil	22·50	Ratio over 30

CLASS 224B.—COWS NOT EXCEEDING 900 LB. LIVE WEIGHT.

		Jerseys. Thrice Milked.														
1788	Sir Harold Mackintosh	Flotsam Twin	812	Jan. 8, 1923	May 14	57	—	21	8	2	0¼	10·66	32·25	1·70	33·95	—
1802	Cortlandt Taylor .	Nobody's Pet	812	May 16, 1922	Mar. 25	107	—	43	12	2	1	21·21	33·00	5·00	38·00	First Prize
		Jerseys. Twice Milked.														
1800	Mrs. E. K. Staines .	Xenia's Canterbury Belle .	868	May 9, 1925	May 13	58	—	30	4	1	2¼	26·52	18·25	1·80	20·05	—
1814	Mrs. E. K. Staines .	Sultan's Una	840	May 22, 1926	May 10	61	—	36	0	2	1	17·45	33·00	2·10	35·10	Second Prize

BUTTER TEST TRIALS.

Reference was made in this Report a year ago to the fact that the 50 Cows present for the Butter Tests was the lowest number for many years, but at Harrogate, out of 71 entered, only 44 competed. Whilst it may be partly owing to the depression in agriculture, the fact that the Show was held so far north, was, I believe, the main reason for this fall in numbers. The classification and milking regulations were the same as at the last two Shows, the full details being shown in Table IV, whilst Table V shows the comparative results of the different breeds.

TABLE V.—*Average Results of all Cows in the Butter Test Classes.*

CLASS 224A.—EXCEEDING 900 LB. LIVE WEIGHT.

Breed	No. of Cows	Live Weight			Days in Milk	Yield of Milk		Yield of Butter		Butter Ratio in lb.	Points
		Cwt.	qr.	lb.		Lb.	oz.	Lb.	oz.		
Dairy Shorthorn	4	12	2	24	67	53	0	1	$3\frac{5}{16}$	45·30	21·69
Lincoln Red . .	7	14	2	2	37	63	6	2	3	29·36	35·57
South Devon .	2	14	0	24	54	62	9	2	$8\frac{3}{4}$	24·85	44·55
Red Poll . . .	7	11	2	5	61	57	9	1	$14\frac{5}{7}$	30·78	32·76
Blue Albion . .	2	11	0	10	29	46	2	1	$6\frac{3}{8}$	32·70	22·37
British Friesian .	7	13	1	7	56	78	7	2	$6\frac{21}{28}$	38·52	40·79
Ayrshire . . .	6	10	2	16	34	59	11	1	$13\frac{1}{2}$	32·36	29·72
Guernsey . . .	1	9	3	21	69	59	8	2	$10\frac{1}{4}$	22·52	45·15
Jersey . . .	2	8	1	14	85	47	4	2	$2\frac{1}{4}$	22·93	38·75
Kerry . . .	1	9	3	0	33	51	8	1	$6\frac{1}{2}$	36·62	22·50
Longhorn . .	1	12	2	7	36	52	8	2	7	21·52	39·00

CLASS 224B.—NOT EXCEEDING 900 LB. LIVE WEIGHT.

Breed	No. of Cows	Cwt.	qr.	lb.	Days in Milk	Lb.	oz.	Lb.	oz.	Butter Ratio in lb.	Points
Jersey	4	7	1	4	71	32	14	1	$13\frac{1}{8}$	18·96	31·77

The performance of the British Friesian Cow "Chaddesley Hedge Rose 2nd" is worthy of comment, as her day's milking produced 4 lb. 5 oz. of butter, as against 3 lb. 8 oz. in the same Test a year ago.

Gold, Silver and Bronze Medals were offered by the English Jersey Cattle Society for Jerseys only, but only the first of these was awarded, as no other cow reached the 42-point standard, the winner being Sir Harold Mackintosh's "Lydia."

As with six exceptions all the cows entered were milked thrice in the 24 hours, the inclusion of a table comparing the yields of twice- or thrice-milked cattle would be practically valueless. Indeed the only comparison that could be drawn is in the case of the Jerseys, the figures being as given on page 284.

TABLE VI.—MILK YIELD CLASSES FOR GOATS AT HARROGATE, 1929.

No. in Catalogue	Exhibitor	Name of goat	Breed	Date of birth	Date of last kid	No. of days in milk	Milk Yield				Percentage of Fat		Percentage of Solids not Fat		Points						Awards and Remarks
							Morn.	Even.	Morn.	Total	Morn.	Even.	Morn.	Even.	Milk	Fat. lb.	Solids not Fat	Lactation	Deduction	Total	
	CLASS 234 (Quality)				1929		Lb. oz	Lb. oz	Lb. oz	Lb. oz											
1916	Misses Window Harrison	Sandhill Nerine . .	Toggenburg . . .	Feb. 25, 1924	Feb. 28	132	4 10	4 5	—	8 15	3·46	3·75	8·46	8·55	8·93	6·43	3·04	1·5	—	19·90	—
1917	Miss Marjorie Henderson	Riding Cilla . . .	Toggenburg . . .	June 8, 1926	April 8	93	4 9	4 7	—	9 0	3·11	2·79	7·60	7·81	9·00	5·31	2·79	0·8	1	16·90	—
1919	Mrs. Morcom . . .	Cleeter Nicotiana .	British Toggenburg	April 13, 1922	Mar. 24	136	3 15	3 10	—	7 9	4·14	3·55	8·02	8·77	7·56	5·82	2·53	1·10	—	17·01	—
1920	Mrs. Morcom . . .	Cleeter Quince . .	British Toggenburg	Jan. 16, 1925	Feb. 26	134	3 14	3 10	—	7 8	3·15	3·06	7·93	8·30	7·50	4·65	2·43	1·5	—	16·08	—
1922	Mrs. Arthur Abbey .	Broxbourne Barbara	Saanen	Mar. 7, 1927	Mar. 2	130	5 9	4 13	—	10 6	3·88	3·88	8·56	8·88	10·37	8·05	3·63	1·5	—	23·55	H.C.
1923	Mrs. Arthur Abbey .	Broxbourne Blanche	Saanen	Mar. 7, 1927	Mar. 3	129	5 12	5 5	—	11 1	3·09	2·84	8·45	8·36	11·06	6·57	3·72	1·4	1	21·75	H.C.
1927	Miss Cecily Booth .	Springfield Unity .	British Saanen . .	Feb. 13, 1924	Mar. 11	121	6 5	6 4	—	12 9	5·29	3·01	9·01	9·15	12·56	11·56	4·56	1·3	—	29·98	Third Prize
1928	N. Cradock . . .	Sandhutton Sugar .	British Saanen . .	Mar. 2, 1927	April 13	88	4 1	4 12	—	8 13	3·14	2·97	8·06	8·17	8·81	5·37	2·80	0·8	1	16·84	—
1930	Mrs. Morcom . . .	Cornish Sybil . .	British Saanen . .	Feb. 1, 1926	April 15	86	4 10	5 0	—	9 10	4·33	4·02	8·99	9·18	9·62	8·02	3·50	0·7	—	21·84	C.
1932	Miss K. Pelly . .	Broxbourne Lady May	British Saanen . .	Mar. 3, 1927	Feb. 6	154	5 11	5 5	—	11 0	4·56	4·01	8·50	8·87	11·00	9·44	3·82	1·9	—	26·16	H.C.
1933	Mrs. H. G. Hendy .	Etherly Snowdrop .	Anglo-Nubian . .	Mar. 2, 1926	April 15	86	5 10	5 2	—	10 12	4·96	5·13	9·72	10·03	10·75	10·83	4·24	0·7	—	26·52	H.C. and Pomeroy Challenge Cup
1935	Miss K. Pelly . .	Theydon Almeda .	Anglo-Nubian . .	April 6, 1926	Mar. 27	105	4 7	3 14	—	8 5	5·59	5·73	10·09	10·27	8·31	9·39	3·38	1·0	—	22·08	C. and Reserve for Pomeroy Cup
1937	Miss K. Pelly . .	Theydon Barbarette	Anglo-Nubian . .	Feb. 17, 1927	Feb. 4	156	3 4	3 1	—	6 5	4·86	5·74	10·66	10·84	6·31	6·67	2·71	1·9	—	17·59	—
1943	Mrs. Arthur Abbey .	Didgemere Della .	British Alpine . .	Mar. 1, 1924	Mar. 18	114	7 12	6 11	—	14 7	4·61	3·54	8·41	8·80	14·43	11·87	4·96	1·2	—	32·46	Second Prize, Abbey Cup and Reserve for the Dewar Challenge Trophy
1944	Mrs. Arthur Abbey .	Didgemere Delysia .	British Alpine . .	Mar. 6, 1926	April 12	89	6 5	5 13	—	12 2	3·74	3·77	7·90	8·33	12·12	9·10	3·93	0·8	—	25·95	H.C.
1946	Mrs. Arthur Abbey .	Didgemere Diploma .	British Alpine . .	June 8, 1926	April 8	93	7 6	6 8	—	13 14	3·51	3·31	7·95	8·23	13·87	9·48	4·48	0·8	—	28·63	Reserve
1947	Miss C. Chamberlain	Whimsical of Westons	British Alpine . .	Mar. 26, 1925	Feb. 23	137	6 2	6 13	—	12 15	3·82	4·30	8·54	8 92	12·93	10·53	4·52	1·6	—	29·58	Fifth Prize, Reserve Dual Purpose Challenge Certificate and Reserve for the Abbey Cup
1951	Mrs. Arthur Abbey .	Didgemere Dixie .	British	May 19, 1925	Mar. 3	129	10 1	8 1	—	18 2	4·97	4·18	8·45	9·00	18·12	16·74	6·30	1·4	—	42·56	First Prize, Dual Purpose Challenge Certificate, Dewar Challenge Trophy (and with No. 1981) the Dewar Challenge Cup
1952	Miss Alexander . .	Stockwell Tyclette .	British	Feb. 22, 1925	Nov. 8 (1928)	244	3 14	4 9	—	8 7	4·27	3·37	9·57	9·67	8·43	6·38	3·25	3·4	—	21·46	C.

954	N. Cradock	Sandhutton Spice	British	Mar. 2, 1927	Mar. 23	109	5	2	5	6	—		10	8	3·35	2·92	8·07	8·72	10·50	6·57	3·53	1·1	1	20·70	C.
1955	Miss Marjorie Henderson	Riding Tottie	British	Mar. 8, 1926	Mar. 9	123	4	8	4	8	—		9	0	5·66	4·40	8·88	9·44	9·00	9·05	3·30	1·3	—	22·65	C.
1956	Mrs. H. G. Hendy	Etherley Cherry Pie	British	Mar. 7, 1926	Mar. 27	105	6	2	6	2	—		12	4	5·09	4·87	8·57	8·85	12·25	12·10	4·26	1·0	—	29·70	Fourth Prize
1957	Mrs. Morcom	Cornish Butterscotch	British	June 12, 1926	Mar. 24	108	4	3	4	2	—		8	5	3·80	3·95	8·58	8·73	8·31	6·43	2·87	1·1	—	18·71	—
1958	Mrs. Morcom	Cornish Witch	British	April 20, 1924	Feb. 1	159	4	7	3	12	—		8	8	3·28	3·70	9·06	9·16	8·18	5·68	2·98	1·9	—	18·74	—
1959	Miss Pope	Pleader of Bashley	British	Mar. 28, 1926	Mar. 9	123	5	15	6	13	—		12	12	3·49	2·95	8·47	8·19	12·75	8·16	4·24	1·3	1	25·45	H.C.
1960	Miss Pope	Proverb of Bashley	British	Mar. 11, 1925	Feb. 18	142	5	6	6	0	—		11	6	3·96	4·04	8·64	8·98	11·37	9·10	4·08	1·7	—	26·25	H.C.
	Class 285 (Quantity).																								
1913	Miss Mary Burgess	Cleeter Odette	Toggenburg	Feb. 28, 1923	Jan. 26	165	4	3	4	8	4	8	13	3	—	—	—	—	13·18	—	—	2·0	—	15·18	C.
1915	Miss Mary Burgess	Riding Clytie	Toggenburg	June 16, 1923	Feb. 15	145	4	6	4	6	4	13	13	9	—	—	—	—	13·56	—	—	1·7	—	15·26	C.
1916	Misses Window Harrison	Sandhill Nerine	Toggenburg	Feb. 25, 1924	Feb. 28	132	4	10	4	5	4	7	13	6	—	—	—	—	13·37	—	—	1·5	—	14·87	—
1917	Miss Marjorie Henderson	Riding Cilla	Toggenburg	June 3, 1926	April 8	93	4	9	4	7	4	7	13	7	—	—	—	—	13·43	—	—	0·8	—	14·23	—
1919	Mrs. Morcom	Cleeter Nicotiana	British Toggenburg	April 13, 1922	Mar. 24	136	3	15	3	10	3	9	11	2	—	—	—	—	11·12	—	—	1·10	—	12·22	—
1920	Mrs. Morcom	Cleeter Quince	British Toggenburg	Jan. 18, 1925	Feb. 26	134	3	14	3	10	4	0	11	8	—	—	—	—	11·50	—	—	1·5	—	13·00	—
1922	Mrs. Arthur Abbey	Broxbourne Barbara	Saanen	Mar. 7, 1927	Mar. 2	130	5	9	4	13	4	10	15	0	—	—	—	—	15·00	—	—	1·5	—	16·50	C.
1923	Mrs. Arthur Abbey	Broxbourne Blanche	Saanen	Mar. 7, 1927	Mar. 3	129	5	12	5	5	5	11	16	12	—	—	—	—	16·75	—	—	1·4	—	18·15	H.C.
1927	Miss Cecily Booth	Springfield Unity	British Saanen	Feb. 13, 1924	Mar. 11	121	6	5	6	4	6	14	10	7	—	—	—	—	19·43	—	—	1·3	—	20·73	Fifth Prize
1928	N. Cradock	Sandhutton Sugar	British Saanen	Mar. 2, 1927	April 13	88	4	1	4	12	4	13	13	10	—	—	—	—	13·62	—	—	0·8	—	14·42	—
1930	Mrs. Morcom	Cornish Sybil	British Saanen	Feb. 1, 1926	April 15	86	4	10	5	0	5	2	14	12	—	—	—	—	14·75	—	—	0·7	—	15·45	C.
1931	Miss Mostyn Owen	Broxbourne Jane	Saanen	April 5, 1924	Feb. 24	136	4	12	4	9	4	8	13	13	—	—	—	—	13·81	—	—	1·6	—	15·41	C.
1932	Miss K. Pelly	Broxbourne Lady May	British Saanen	Mar. 3, 1927	Feb. 6	164	5	11	5	5	5	10	16	10	—	—	—	—	16·62	—	—	1·9	—	18·52	H.C.
1933	Mrs. H. G. Hendy	Etherley Snowdrop	Anglo-Nubian	Mar. 2, 1926	April 15	86	5	10	5	2	5	5	16	1	—	—	—	—	16·06	—	—	0·7	—	16·76	C.
1943	Mrs. Arthur Abbey	Didgemere Delia	British Alpine	Mar. 1, 1924	Mar. 18	114	7	12	6	11	6	14	21	5	—	—	—	—	21·31	—	—	1·2	—	22·51	Second Prize
1944	Mrs. Arthur Abbey	Didgemere Delysia	British Alpine	Mar. 6, 1926	April 12	89	6	5	5	13	6	3	18	5	—	—	—	—	18·31	—	—	0·8	—	19·11	H.C.
1946	Mrs. Arthur Abbey	Didgemere Diploma	British Alpine	June 8, 1926	April 8	93	7	6	6	8	6	12	20	10	—	—	—	—	20·62	—	—	0·8	—	21·42	Third Prize
1947	Miss C. Chamberlain	Whimsical of Westons	British Alpine	Mar. 26, 1925	Feb. 23	137	6	2	6	13	6	6	19	5	—	—	—	—	19·31	—	—	1·6	—	20·91	Fourth Prize
1951	Mrs. Arthur Abbey	Didgemere Dixie	British	May 19, 1925	Mar. 3	129	10	1	8	1	8	6	26	8	—	—	—	—	26·50	—	—	1·4	—	27·90	First Prize
1954	N. Cradock	Sandhutton Spice	British	Mar. 2, 1927	Mar. 23	109	5	2	5	6	5	6	15	14	—	—	—	—	15·87	—	—	1·1	—	16·97	C.
1955	Miss Marjorie Henderson	Riding Tottie	British	Mar. 8, 1926	Mar. 9	123	4	8	4	8	4	11	13	11	—	—	—	—	13·68	—	—	1·3	—	14·98	—
1956	Mrs. H. G. Hendy	Etherley Cherry Pie	British	Mar. 7, 1926	Mar. 27	105	6	2	6	2	6	13	19	1	—	—	—	—	19·06	—	—	1·0	—	20·06	H.C.
1958	Mrs. Morcom	Cornish Witch	British	April 20, 1924	Feb. 1	159	4	7	3	12	3	7	11	10	—	—	—	—	11·62	—	—	1·9	—	13·52	—
1959	Miss Pope	Pleader of Bashley	British	Mar. 28, 1926	Mar. 9	123	5	15	6	13	6	9	19	5	—	—	—	—	19·31	—	—	1·3	—	20·61	Reserve
1960	Miss Pope	Proverb of Bashley	British	Mar. 11, 1925	Feb. 18	142	5	6	6	0	5	13	17	3	—	—	—	—	17·18	—	—	1·7	—	18·88	H.C.

	No. of Cows	Live Weight	Days in Milk	Yield of Milk	Yield of Butter	Butter Ratio per lb.	Points
Jerseys.		Cwt. qr. lb.		Lb. oz.	Lb. oz.		
Twice milked .	3	7 3 12	62	35 3	1 $5\frac{5}{6}$	21·58	29·33
Thrice ,, .	3	7 2 16	89	40 3	2 $2\frac{1}{2}$	18·32	38·87

Here again attention must be drawn to the abnormalities of showyard performances, the figures of the Dairy Shorthorns and Friesians being affected by one cow in each case having an exceptionally low butter yield, the butter ratios being 61 and 87 respectively; whilst the already good figures of the Jerseys were improved by one cow with a butter ratio of only 10·66; that is to say, 1 gallon of milk yielding 1 lb. of butter.

MILK YIELD TRIALS

(GOATS, CLASSES 234 AND 235).

Twenty-nine goats competed in these Trials. These were milked out on Tuesday, July 9, at 7 a.m., the milk for the next 24 hours being taken for the Quality Trials, with an extra milking 12 hours for the Quantity Trials. The work was again under the superintendence of Mr. Thomas W. Palmer, the Honorary Secretary of the British Goat Society. Full particulars of the Trials are given in Table VI.

In the Working Dairy itself the usual demonstrations in butter, scalded cream and soft cheese making were carried out, as well as the work of testing and churning in connection with the Milk Yield and Butter Test trials, whilst for the first time for many years Butter Making Competitions were conducted, which, judging by the number of competitors as well as by the crowds of spectators who watched the work being done, was a very popular revival.

Two novice classes were provided, one being limited to Yorkshire, and these with an open class, led up to the Championship Contest on the last afternoon of the Show.

H.R.H. Princess Mary, Viscountess Lascelles, who had previously accompanied the President in a full inspection of the Dairy and Produce tent, honoured us again by distributing the Awards, the Championship being won by Mrs. R. J. Dunstan of Cornwall.

To every member of the staff in the Dairy I wish to tender my grateful thanks for their loyal co-operation, and the very hard work they put in to make the week's work a success, and I would particularly thank Mr. R. J. B. Gubbins, the Senior

Assistant Steward; Miss Noble, the chief Dairymaid; and Mr. Hasted, who worked so wholeheartedly to lighten my duties.

WILLIAM BURKITT.

Grange Hill,
Bishop Auckland.

AGRICULTURAL EDUCATION EXHIBIT, HARROGATE, 1929.

IN addition to the usual building for the Education Exhibition exhibits of very considerable educational value were staged by the Ministry of Agriculture and Fisheries, Bradford Technical College, and the National Federation of Women's Institutes. The attractive exhibit of the Bradford Technical College included both machinery and fabrics. The Federation of Women's Institutes arranged a comprehensive and pleasing display of work illustrative of rural industries, and in connection with the exhibit, demonstrations in the dressing and trussing of fowls were given on each day of the Show.

The very attractive and instructive exhibit of the Ministry of Agriculture was so arranged and conveniently displayed that visitors could with comfort quickly understand the object of the different sections by reference to the explanatory labels. The addition of pens of pure-bred and cross-bred pigs for pork and bacon purposes, and also the demonstrations with the mechanical plucking-machine, gave additional interest to the exhibit.

The exhibit was divided as follows:—

1. Cattle, beef and veal.
2. Pigs and pig products.
3. Fruit.
4. Cereals.
5. Potatoes.
6. Poultry.
7. The National Mark.

The key-note running throughout all seven sections was standardisation. In most cases standardisation of production was shown as a necessary preliminary to standardisation of product, pack, package and method of sale.

There were two new sections which had not previously appeared at an R.A.S.E. Show.

1. *Cereals*, in which emphasis was laid on the importance of a few standard varieties, this being demonstrated by the practice in North America. Grade standards and Fair Average

Quality (F.A.Q) systems, in use in exporting countries or at the London or Liverpool Exchanges, were shown and suggestions were made for national standards for home-produced grain and for its primary products in the form of flour, malt, &c.

2. *The National Mark.*—Separate stands in this section demonstrated the working of the National Mark schemes then in existence, namely those dealing with eggs, apples, pears, tomatoes, cucumbers, and finally, broccoli for export. The section also showed how by means of the Agricultural Produce (Grading and Marking) Act, it was now possible to supply standardised home produce to wholesale markets where previously the only standard produce was imported. It was also demonstrated how grading and the use of a National brand or mark made advertisement easier and more effective.

The provision of space for all these agencies, as well as for those referred to in the following notes, indicates the practical efforts of the Society to give an opportunity to visitors of becoming acquainted with the most up-to-date work on the educational side.

The various exhibits were visited by H.R.H. The Duke of York, accompanied by Princess Mary and Viscount Lascelles, President of the Society.

Rothamsted Experimental Station.—It was appropriate that visitors on entering the building should first of all view an exhibit which had been prepared by the world-famous Experimental Station at Rothamsted. It was, of course, possible in the restricted space to illustrate only a very small portion of the work that is being carried out there. As the study of soil physics has received special attention for some years, the exhibit included the actual dynamometer which had been used in the measurement of the Draw Bar Pull, and a model illustrating the reduction in draft by as much as 16 to 20 per cent. attributable to an application of lime.

Symptoms of food deficiency and of acidity were illustrated by pots of barley grown on Woburn soil. The specimens were from the fifty-third crop at Woburn and the seventy-eighth crop at Rothamsted and illustrated effectively the detrimental effect of continuous applications of Sulphate of Ammonia, and on the other hand the benefit from the complete mixture of artificial manures, as well as that derived from an application of lime. Samples of the barley grown at Rothamsted in similar experiments were also shown, together with water-colour pictures of barley plants illustrating the plant at different stages of growth and also showing the shoot and root development.

The importance of the balance of manures for the growth of crops was emphasised, particularly with regard to the potato crop, and there was an ingenious model illustrating a method by which this balance could be arrived at.

Much research has been done at Rothamsted on the cultivation of the special organism which is associated with the healthy roots of the Lucerne plant and without which successful growth is not obtained. The Centre has been able to distribute quantities of the special culture for the purpose of inoculating the soil which might not contain the organism, and a map showed the Centres where the culture had been used with success.

The EUGENICS SOCIETY again devoted the allotted space to a somewhat similar exhibit to that staged at previous Shows.

The NATIONAL INSTITUTE OF AGRICULTURAL BOTANY, Cambridge, provided, as heretofore, an interesting exhibit designed to illustrate some of the measures which its different Branches have adopted for the realisation of its aim of improving the yield and quality of farm crops by encouraging the use of better varieties and better seed. The exhibit was conveniently divided into three sections, viz., Crop Improvement Branch, Potato-testing Work, and Official Seed-testing Station for England and Wales.

Crop Improvement Section.—Sheaves and grain of the varieties of Cereals that have given the best results in the Institute's completed trials were exhibited, together with a map showing the Permanent Trial Sub-Stations of the Institute—of which there are six, including Cambridge—with notes on the different soils, climatic conditions, &c. The relative yields for the varieties tried during the years 1924 to 1928 were, in the case of Wheat, as follows, viz.,

Squarehead's Master (Control)	100·0
Yeoman II	101·6
Little Joss	103·3
Iron III	106·1
Wilhelmina	108·9

The Barley varieties gave the following order, viz.,

Plumage Archer 24 (Control)	100·0
Beaven's Archer	99·9
Spratt Archer	104·1

The trials with varieties of Oats had not been sufficiently advanced for the results to be announced. The remainder of the exhibit included a diagram illustrating the normal method adopted at the Institute in selecting for trial, testing, and multiplying for marketing new varieties of agricultural crops, and also lists of varieties of Cereals, &c., at present in the Institute's trials or observation plots.

An interesting model showed the "alternate drill strip" method by which the variety trials with cereals are carried out, and the system was fully explained by means of a diagram.

Potato-testing Work.—The fact that the virus diseases such as Leaf Roll and Crinkle in potatoes are conveyed in the "seed" planted was illustrated by three pots, in one of which there was healthy growth from an uninfected tuber, whilst the other two showed the distinct presence of the Leaf Roll condition having been grown from tubers selected from a crop that was known to have been infected. Trays illustrating the typical crop obtained from healthy plants and from affected plants were also shown.

The interesting work originally begun by Miss Glynne at Rothamsted and since followed up at the Institute's Experiment Station at Ormskirk, whereby it is possible to determine whether a new variety of potato is immune from Wart Disease, was very effectively illustrated by an exhibit showing the technique of the new method. The great merit of the method is the short time (normally about three weeks) in which immunity or non-immunity of a variety from Wart Disease can be determined. Photographs and charts illustrated the appearance of the disease on tubers and the progress made in the Ormskirk trials. It was shown that of the stock of potatoes sent to Ormskirk for immunity trials in 1928, the proportion of distinct *new* varieties was 86 per cent. as compared with 28 per cent. in the first year of the trials; the corresponding figures for the distinct *immune* varieties were 64 per cent. and 7 per cent. The proportion of varieties appearing under different synonyms, it is gratifying to notice, has fallen from 72 per cent. to 14 per cent.

Official Seed-testing Station for England and Wales.—This was a very complete exhibit showing, as far as space would allow, the method adopted in the Official examination of samples of seeds. It included a simple and efficient instrument known as a Diaphanoscope, used in separating light seed from grass samples in the test carried out to determine the purity of the sample. During the test for the purity of Clover samples, the detection of the seeds of Clover Dodder is very important, and the machine used for this purpose was exhibited. Pots of Clover plants with the parasite Dodder growing thereon, both English Dodder and Chilian Dodder, emphasised the harm done by Clover seed in which the impurity was present. The methods followed in the germination of various seeds was fully described by means of the Copenhagen tank and also by a Hearson type of cabinet incubator. The exhibit was made extremely interesting by the photographs of the more common weed seeds, together with mounted specimens of the same. Samples of seed showed how certain diseases are conveyed by the seed, for example :—Ergot in Rye ; Smut in Barley ; Bunt in Wheat ; Ear-Cockle in Wheat ; Marsh Spot of Peas ; Pea Leaf and Pod Spot.

LEEDS UNIVERSITY.—As the Show was being held in Yorkshire, the Society generously placed the larger portion of the building at the disposal of the University of Leeds and the Yorkshire Council for Agricultural Education. The exhibit, for convenience, was divided into sections, and so far as possible arrangements were made that the content of each exhibit did not in any way overlap others.

Agricultural Economics.—Whilst this exhibit had special reference to certain features that may only apply to Yorkshire, the subject-matter was arranged so as to be of general interest. The exhibit graphically showed the results of economic study of good and bad examples of farm management. Maps and charts showed the distribution of the Sugar Beet crop and its economic returns in Yorkshire, and the progressing revival of the Flax crop in certain parts of the County.

Warping, a process confined almost entirely to Yorkshire and Lincolnshire, was illustrated by photographs, and similarly the practice of *Marling,* in a situation in Yorkshire where this latter method of improving the productivity of the land in the immediate neighbourhood has proved profitable.

The recognition of the need for lime has led to the utilisation of disused lime-kilns, and on one farm to the erection of a cheaply made kiln, the lime from which is used entirely on the farm. This particular kiln was well illustrated by photographs and as it was erected a few years ago, practically the whole farm has now received one application of home-made lime.

To illustrate the benefits of co-operative action on the part of producers, charts showed growth and development of the successful egg-collecting station at Stamford.

Poultry Husbandry.—The space allotted to this section had to be restricted to an exhibit dealing with the importance of foods and feeding and the diseases and parasites of poultry. Opportunity, however, was taken to draw special attention to marketing and the grading of eggs to meet the requirements of the National Mark.

Bee-keeping.—Interest in Bee-keeping, at one time a very marked feature of rural Yorkshire, has been revived after several years of discouragement. A few demonstration apiaries have been established in the County, and examples of the honey and wax from these bore testimony to the encouraging possibilities of an extension of this industry in Yorkshire. For demonstration purposes the exhibit included an observation hive, with English Black Bees. Specimens illustrated Queen-rearing methods, and a new hive specially designed for bee-keepers who, in the autumn, move their bees to the neighbourhood of the heather moors, was on view.

Horticulture.—Horticulture in all its phases is of very considerable importance in Yorkshire, and its development on the practical and educational sides, encouraged undoubtedly by war conditions, has made considerable strides. It was only possible, however, to illustrate some of the principal features of the educational side, and the exhibit included examples of fruit and vegetables, either bottled or preserved, together with home-made wines and herb simples. This side of the work is a feature of home industries which has become widely practised.

The insect pest and fungoid diseases affecting the various garden and orchard plants were illustrated by specimens, both live and dead, and methods of dealing with the same were explained by descriptive labels.

In the development of fruit culture in Yorkshire, the Demonstrational Fruit Centre and the Fruit-testing Sub-Station at Osgodby, near Selby, were drawn upon for a supply of fruit trees and bushes of apples, pears, plums and black currants, showing progressive stages of growth and the methods adopted in pruning and training. Tests are being carried out with different stocks and the merits of these were exemplified by actual specimens of standardised stocks from the Demonstration Centre, and included Paradise Quince and Plum stocks.

Agricultural Zoology.—This embraced both Veterinary Zoology and Agricultural Zoology. In the former, the exhibit included examples of external and internal parasites of domestic animals, together with specimens and models of physiological import.

The presence of the Potato Eelworm on the roots of the potato crop has been known for a number of years, but the possibility of its being associated with, if not the cause of, the failure of the crop has only within recent years received serious consideration. Experiments have been in progress for some time and an exhibit in the portion allotted to AGRICULTURAL ZOOLOGY was prepared with the object of demonstrating the presence of the parasite and of the means known at present to mitigate or prevent an attack.

A kindred pest, viz., Stem Eelworm, was also illustrated by specimens, both of the affected plant and of the parasite.

Various insect and also molluscan (slugs) pests of farm crops were exhibited, and with regard to the latter, the means of combating them when, as has been the case in recent years, their attacks have been serious on Winter Wheat, Winter Oats, and young Clover. The damage by slugs has also been considerable in the case of Spring-sown cereals and field peas, but fortunately the application of a dry spray of Sulphate of Copper (Bluestone) has been successful in the control of this pest.

Illustrations and water-colour drawings of a number of other farm pests completed this section.

The protozoa of the soil are receiving special study and for educational purposes preparations showing live specimens were included in the exhibit.

The exhibit of the next three sections, viz., Agriculture, Dairy Husbandry and Dairy Bacteriology, was staged with the underlying idea of a connected story.

Agriculture.—The fundamental importance of the treatment and management of pastures for dairy stock was emphasised in this section by specimens of turves, which illustrated the improvement that had been effected on poor pastures in Yorkshire. In many cases the poverty is due to a deficiency of phosphates, but in others to a lack of lime, and the improvement effected by a supply of either or both commodities could be judged by the turves exhibited. The establishment of a satisfactory herbage for temporary purposes, either long or short leys, was also illustrated by turves, the result of different mixtures of grass and clover seeds. Turves also showed an excellent result from a renovating mixture of grass and clover seeds. This section of the exhibit was further enhanced by a collection of specimens of both useful and useless grasses.

Dairy Husbandry.—This section was linked up with the preceding one by examples of suitable winter and summer rations for dairy cows. The exhibit was so arranged that the actual foods in proper quantities both for the maintenance requirements of the cow and for the production of milk were displayed and the method of balancing cakes and meals to give the proper proportions of protein and starch equivalent in the production ration was illustrated by charts. The exhibit also demonstrated the manner of mixing cakes and meals and the method of feeding the mixture. The mineral requirements of dairy cows, as well as the water requirements, completed the part devoted to the nutrition of the dairy cow. In the part of this section which dealt with the composition of milk, and variation of fat and of solids not fat in milk from Shorthorn cows, an exhibit showed the separate amounts of the various ingredients in a gallon of Shorthorn milk of average composition.

Quite a number of existing cowhouses have been adapted to meet the requirements of the Milk and Dairies Act, and in many cases new cowhouses have been erected. In this latter connection there was an interesting and useful model, made to scale, of a new cowshed erected by Mr. Percy Hudson, of Carla Beck, Carleton, near Skipton. The cowhouse provides for two rows of cows, with their heads to the walls, and without feeding-passages. Fresh air enters by an inlet pipe to each pair of cows, close to the trough, the foul air getting out by an adjustable ridge ventilator which runs the whole length of the cowhouse. The extent to which the ventilator can be opened is controlled by a simple lever. As the two halves of the ridged ventilator are glazed, ample light is admitted as to render wall windows unnecessary. The model was presented by Mr. Hudson to the University.

Dairy Bacteriology.—The work of the Dairy Bacteriologist has been invaluable in all efforts to bring about an improvement in the hygienic quality of the milk supply, and producers of graded milks are well acquainted with the practical value of the bacteriological examination from time to time of samples of their product. The technique of these examinations was illustrated, especially with regard to the determination of the dung organisms (*Bacillus coli*) in milk, and samples of milk which contained taints due to one or two avoidable causes were also shown. A simple method of sterilising utensils was illustrated by a small model and an exhibit also explained the now well-known Reductase-Fermentation Test.

Agricultural Botany.—The Agricultural Botanist has to devote considerable time to the study of the plants affected by disease. Examples of two complaints which within recent years have been causing a good deal of trouble to the Oat crop in Yorkshire were featured by pots with Oat plants attacked by either Leaf Spot or a second disease which produces white blotches and streaks on the leaves and is known as Halo Blight. With regard to the former, the exhibit was so arranged that the life-history of the fungus could be followed, and boxes of plants of Oats illustrated the treatment that has been successfully employed in combating this particular disease. Investigations are still in progress with regard to the second disease. There were, in addition, samples of the more commonly occurring diseases of farm crops with directions as to methods of prevention or cure.

As regards seeds mixtures, an exhibit illustrated the value of the use of pure seeds compared with what was at one time fairly common, viz., hayloft sweepings—an interesting and convincing illustration of the advantage of pure seeds, especially when a mixture of grass and clover is made for sowing down to temporary or permanent pasture. Needless to say, the hayloft sweepings, for which a special value is claimed, were mainly composed of weed seeds.

Agricultural Chemistry.—A selection of typical Yorkshire soils was exemplified by samples of the soils and subsoils, together with specimens of the underlying rocks. These were accompanied by charts giving a brief statement of the fertility of the soils, together with mechanical analyses, and figures regarding the lime-requirement.

The Society provided a shed and pens close to the Education Exhibition for an exhibit arranged by Professor A. F. Barker, Textile Industries Department of Leeds University.

The objects in view in organising this exhibit were :—

1. To stimulate the production of better wool: Fine wool is intrinsically more valuable than coarser material, though coarse and medium materials will also always be in demand.
2. To produce wool more uniform in all the features characteristic of good wool.
3. To produce more uniform fleeces of wool, showing less variation in fineness, length, strength, etc., and free from kemp and coloured fibres.
4. To produce a fleece of greater weight when clean.
5. To produce animals carrying wool as above without sacrificing the interests of the farmer or the butcher.

Animals representative of breed types used in experiments designed to determine the extent to which an improvement in the quality of wool can be effected without the sacrifice of mutton qualities were shown in pens.

Sheep and wool were kindly loaned for the purpose as follows :—

Pen 1. Peruvian Ram, loaned by Mr. C. Hainsworth, Pateley Bridge.
2. Peruvian Ewe and Ram Lamb, by Mr. C. Hainsworth.
3. Wensleydale Ewe and two Cross Lambs (Peruvian Ram), by Mr. J. B. Smalley, Cark-in-Cartmel.
4. Half-bred Ram (Peruvian Ram on Wensleydale), by Mr. J. Allison, Bedale.
5. Two Half-bred Gimmers (Peruvian Ram on Wensleydale), by Mr. J. Allison.
6. Half-bred Ewe as above and two Lambs by half-bred Ram as above, by Mr. J. Allison.
7. Half-bred Ewe as above to show variation in the cross, by Mr. J. Allison.
8. Corriedale Ram (Johnson's Strain), by Mr. James Piper, Burntisland, Fife.
9. Corriedale Ewe and two pure-bred Lambs, by Mr. James Piper.
10. (*a*) Lincoln Ewe
 (*b*) Cross Ewe (Border Leicester cross Merino), by Mr. G. H. Neville, Lincoln.

Pen 11. Cross Merino on Lincoln Ewes, 3 types, by Mr. G. H. Neville.
12. Blackface Ewe and two Lambs by half-bred Ram (Peruvian Wensleydale), by Mr. C. Hainsworth.
13. Two Sheep three-quarter bred Peruvian and Wensleydale, by Mr. C. Hainsworth.
14. Peruvian Wether Hogg Fleece, by Mr. C. Hainsworth.

Besides the exhibition of live animals to show both wool covering and carcass, a small section was devoted to sample fleeces; fabrics in different finishes illustrative of the milling, raising and finishing properties of wools from animals of the types shown in the pens; representative woolled skins; photographs showing progenitors in descent of the Corriedale and the Andean (Peruvian Merino cross Wensleydale) breeds; and frames of mounted wool staples prepared in connection with an investigation into the rate of growth and the co-relation of length and fineness in wool.

The more important items were:—

Three fleeces, Merino (Wembley) cross Lincoln wool, loaned by Mr. G. H. Neville, Lincoln.
Three fleeces, Corriedale (1st, 2nd and 3rd fleeces, different ages), loaned by Mr. James Piper, Burntisland, Fife.
Three fleeces, Andean (Peruvian cross Wensleydale), loaned by Mr. J. Allison, Bedale.
Two fleeces—Ram and Ewe—each Merino Romney Cross.
Two fleeces—Ram and Ewe—each by Southdown Ram on half-bred ewe (Merino Romney), loaned by Mr. H. Shields, Wiltshire.
Matchings or qualities from Merino (Wembley)
" " " " " (Peruvian)
" " " " " English Merino (Camden Park strain), loaned by Mr. W. S. Campbell, Ross, Hereford.
Sample length of worsted suiting cloth made from English Merino wool as above.

All the sections were centres of attraction to the many visitors on each day of the Show.

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THE FORESTRY EXHIBITION AT THE HARROGATE SHOW, 1929.

A FEW months before the Harrogate Show, the Forestry Section sustained a great loss in the death of Mr. Coltman-Rogers, who for many years had been Steward of this Section. Until a short time before his death he had been engaged, as usual, in making the arrangements for entries, and the drop in the number of these, 62 as against 98 at Nottingham, may have been due to the arrangements having to be transferred at somewhat short notice. The Stewards, Lord Hastings and Mr. William Dawson, are, however, to be congratulated in having got together such a comprehensive group of exhibits in the time at their disposal, in view of the fact that a great deal of correspondence is usually necessary before the classes are filled. Incidentally it is somewhat surprising that so much spade-work is needed to induce exhibitors to come forward, considering the interest taken by the general public. The excuse is sometimes made that the cost of transporting exhibits is prohibitive, but the actual cost of sending a gate or a few boards by goods train or a small inside exhibit is not very great. More probably the feeling exists that it is useless for a small Estate to compete against some of the larger ones, but this might be overcome by having classes according to Woodland acreage. It is to be hoped that these are the main reasons, and that it is not a lack of enthusiasm or a too light regard for the importance of the subject which deters those who are in a position to exhibit.

There were 35 competitive exhibits and 27 non-competitive, the latter divided into Public Institutions 4, Estates and Private Enterprise 15, and Purely Commercial 8.

CLASS 1. *Specimen boards of Oak, Elm, Ash and Beech.*

The Silver Medal was awarded to the Zetland Estates Company, and the Bronze Medal to Captain E. W. S. Foljambe.

CLASS 2. *Specimen boards of Larch, Spruce and Scots Pine.*

The Zetland Estates Company, whose collection included a nice specimen of Larch plank from a tree measuring 166 cubic feet at 75 years old, won the Silver Medal, and Captain Foljambe the Bronze Medal.

CLASS 3. *Specimens of any other sort of Hard Wood.*

The Silver Medal was again carried off by the Zetland Estates Company, who showed specimens of Sycamore, Lime, Horse Chestnut, Alder, Birch, Walnut, Holly, Cherry, Acacia and Spanish Chestnut. The latter was a beautiful board, clean, free from shake, nicely grained and measuring 25 inches across. Lord Bolton took the Bronze Medal.

CLASS 4. *Specimens of any other sort of Coniferous Timber.*

Only the Bronze Medal was awarded in this class and fell to the Zetland Estates Company.

CLASS 5. No entry.

CLASS 6. *Oak Field Gate for Farm use, cost not to exceed* 40*s. including irons.*

The Silver Medal was awarded to the Chatsworth Estates Company, and the Bronze to Captain Foljambe.

CLASS 7. *Field Gate of combination of Home-grown Woods.*

The Earl of Feversham gained the First Prize, and the Zetland Estates Company the Second. A gate from Chatsworth was highly commended.

CLASS 8. No entry.

CLASS 9. *Hunting Gate or Wicket (self-closing).*

Lord Feversham again took the Silver Medal, and the Zetland Estates Company were awarded the Bronze Medal.

In the Gate Classes there were 15 entries, but the standard on the whole was somewhat uneven. Some of the gates left little to be desired, but in others timber was faulty and the workmanship poor. There was a tendency to sacrifice strength and durability for lightness and cheapness, which is only an initial economy.

The cost of material and labour varied to a marked degree. It must be remembered that material has to be based on current merchants' prices and not at bare estate cost.

Class 9 is not easy to judge because an otherwise well-made gate may be spoilt by a type of fastening unsuitable for a Hunting Wicket but efficient for other purposes.

CLASS 10. *Tree Guard.*

The only entry was one from Chatsworth and this was awarded the Silver Medal.

CLASS 11. *Fencing of Home-grown Wood.*

The Zetland Estates Company carried off the Silver Medal and the Bronze Medal went to Viscount Mountgarret.

CLASS 12. No entry.

CLASS 13. *Nurserymen's Competition. Specimen and Ornamental Trees.* No entry.

There seems a great lack of enterprise amongst Nurserymen, who are very backward at entering in this class at Shows. It is not a difficult exhibit to stage and the advertisement should well repay any small amount of trouble they may be put to.

NON-COMPETITIVE EXHIBITS.

These made an attractive collection.

The largest was staged by H.M. Forestry Commission and included a new feature illustrating their experiments in planting Sitka Spruce on boggy land. This consists of forming drains at regular intervals and utilising the turves thus obtained to form beds in which the plants are inserted. This system was first carried out by Sir John Stirling Maxwell at Corrour, and the Commission are making experiments to improve upon it and cheapen it.

Amongst exhibits from Private Estates, an excellent collection of Turnery was shown by the Zetland Estates Company. This included poss and dolly sticks, mangle rollers, table legs and mallets, all made from timber grown on the Estate, and by an employee whose craftsmanship was of a high order. This exhibit in conjunction with others shown by the same Estate in the competitive classes was awarded the Silver Medal for the best General Collection of Exhibits in the Section. The whole collection was an excellent illustration of what can be done by an enterprising Estate and might well serve as an example to potential exhibitors.

Lord Bolton was awarded a Bronze Medal for an interesting exhibit which included panels of various woods and also some excellent coloured photographs showing foliage of forest trees.

A well-arranged exhibit was that shown by the Forest Tree Nurseries, which comprised samples of seeds, seedlings, transplants and sections of the matured timber of most of the commoner forest trees. The seedlings and transplants were set up in glass jars to show the root development. They also staged a small model of a Woodland Area which illustrated the combination of silvicultural and sporting interests. A Silver Medal was awarded to these exhibits.

Other private enterprise exhibits included miniature plantations from Captain Foljambe and Mr. R. F. Maughan, whilst Mr. John Maughan sent a model showing a method of wiring a wall to prevent the straying of sheep.

Amongst the purely commercial exhibits Bronze Medals were awarded to the English Forestry Association for a fine collection of Forest Trees and transplants, and to the Rural Industries of 169 Regent Street, W., for types of wattle fencing.

Other exhibitors included The T. L. Smith Company and Messrs. Christy & Penny, Ltd., who gave interesting demonstrations with Portable Cross-Cut Saws.

HENRY S. EELES.

Bayham Estate Office,
Frant, Sussex.

REPORT OF THE JUDGES ON THE PLANTATIONS AND NURSERIES COMPETITION, 1929.

THE Plantations and Nurseries Competition in connection with the Royal Show at Harrogate was confined to Yorkshire. There were 11 separate entrants and 46 separate entries. Of these, the bulk fell in Class II, while 5 owners entered whole estates. Thus, although the number of entries was comparatively small, the ground to be covered was as big as usual, and the Judges again found some difficulty in fitting in the judging before the Show itself was held. More entries were expected, but the usual excuse was given that since the War the plantations had been neglected and were not in a fit condition to show. It was pointed out to those who did enter and to every available person, that the object of the competition, besides encouraging owners to plant, was to give them advice on what and where to plant. The judging took longer on this account, and owners very frequently asked the Judges to view plantations and woodlands which they did not think fit to enter. Among those who entered, the Judges found the same anxiety on the part of land-owners and land-agents to receive advice and to discuss problems relating to their own woods, and in a large number of instances owners came from considerable distances to fit their times to suit the Judges.

The character of the woodlands did not show so much variation, being mainly conifers round 20 years of age, and as a general criticism it might be said that they showed the fault that has been pointed out in previous reports, of having suffered from neglect of thinnings. It cannot be too strongly emphasised that thinnings should be timely, and if they are not done at the proper period the woodland suffers heavily from loss of increment. It is impossible to state a particular year in which thinnings should begin, even for any one species, because so much depends on soil and situation. For instance, Larch or Douglas Fir grown on high elevations and on poor soil would not reach the size of those grown in favourable situations and on good soil in the same time. Thinnings may in one case have to begin by the twelfth or fifteenth year, and in the other case between the twenty-fifth and thirtieth years.

In Class I (*a*) the Silver Medal was awarded to Lt.-Col. C. G. Darley, D.S.O., of Aldby Park, for Spaunton Spring Wood, where Ash would be the ultimate crop, and where very judicious and sensible pruning had been done to a selected number of trees which are likely to form the final crop, and it was recommended that pruning take place a little higher up the stem at the present time. The plantation was a particularly pleasing one and showed knowledge and very careful study, and reflects credit on the management. In fact it is a woodland of the type that one seldom sees. In the same class Captain W. A. Worsley was awarded the Bronze Medal for Africa Wood, which consisted of a mixture of Ash, Japanese Larch and several kinds of hardwoods. The plantations will ultimately come to a pure wood of Ash and Sycamore. The fact that it had not been properly pruned rather detracted from its quality. In Class I (*b*) for plantations over 25 years of age, the Silver Medal went to the Chatsworth Estates Co. for the plantation on the Bolton Abbey Estate. The woodland exhibited contained some excellent hardwoods, which, in order to be brought to perfection, should also be pruned and thinned. The general idea of pruning is not recommended, but in hardwood plantations to produce clean timber and at the same time secure proper increment, it is necessary.

In Class II (*a*) the Silver Medal was awarded to Lt.-Col. Darley. This wood also showed excellent management, but again the trees require thinning. The Judges considered that the tops of the trees were slightly too small, however, and recommended thinning as early as possible, and also from the nature of the soil recommended the addition of Beech and Sycamore, and the encouragement of anything that came in, in the way of natural growth, of these species after thinning. Captain Worsley was awarded the Bronze Medal in this class also for the section of Hovingham High Wood, where a group form mixture had been planted of Sitka, Scots Pine and Larch, and a wind-screen of Corsican and Beech had also been planted, which was a very wise precaution considering the situation. The Larch showed promise, and the wood will continue to flourish if it gets a very careful going through at short intervals of years. No heavy thinnings should be carried out.

In Class II (*b*) for plantations over 20 years of age, where the final crop is intended to be Conifers, the Silver Medal was awarded to Viscount Mountgarret for the 40 years' old plantation (Viaduct Wood) of Larch and Beech. This plantation showed very satisfactory growth, as the mixture is ideal. It requires thinning, however, and the removal of the crooked or defective Larch trees, as much of the Beech to be retained as possible. The Chatsworth Estates Co. was awarded the Bronze Medal in this class for Barden Low Fell, which consisted mainly of Larch, with only a few hardwoods. The growth was extremely satisfactory and the management had been systematic, and every promise is given for a valuable woodland within a very short time if thinnings are persisted in.

There were no entries in Classes III or V.

In Class IV the Silver Medal was awarded to Mr. John Todd, Mill House, Brampton, Northallerton, for Knotts Plantation, which was situated on a steep slope and had been started as a mixture of Japanese Larch, Beech and Corsican Pine. The Japanese Larch here did not show the ordinary characteristic of being crooked in the stem, but were a remarkable size, and in a short period had attained a height of 60 feet. The plantation is in rather an exposed situation and it is recommended that even now a shelter belt of Corsican Pine be planted on the outside. To encourage increment, it is again recommended that this woodland be opened more. On account of the height of the trees what is now required is diameter increment. The trees have, however, an uncommon size for their age, and they have evidently received attention lately, which led the Judges to give the award. The Bronze Medal was awarded to the Earl of Feversham for a woodland at Nawton Tower, which was a plantation of almost pure Japanese Larch, with some Beech and Sycamore, which have come in naturally just at the right time. The Japanese Larch are again very straight and do not show the ordinary characteristic of twisting. The plantation is a valuable one now and if it is treated as recommended, *viz.* further thinnings, it will be extremely useful. It is, however, rather an amenity wood, although it has been treated on silvicultural systems and the various operations have been successfully carried out under the direction of Captain Hay. Although the whole estate was not entered under Class VII, it was pointed out that there were very great possibilities from a timber producing point of view on this property.

In Class VI for Nurseries, the first award was made to Viscount Mountgarret's Nidd Hall Estate and the second to Lt.-Col. Darley. The entries in this class were disappointing both as regards numbers and condition. The Nidd Hall nurseries showed a definite effort to bring the area which they have under young trees into a proper bearing condition. The situation is not altogether satisfactory, and it was recommended to plant shelter belts in certain places. This particular class was the least satisfactory of all the entries.

In Class VII 5 estates were entered. In this class are embraced all the woodlands on the estate as well as the general question of amenities, game, etc., and the relative importance given to each particular subject. It must of course be understood that the forestry side comes first. Two awards were made, *viz.* the Society's Silver Gilt Medal went to the Zetland Estates Company under the agency of Major Nelson Rooke, and the second award went to the Ripley Castle Estate belonging to Sir William Ingilby. The Zetland Estates covered a wide area of country and were roughly divided into three sections, and showed a considerable variety of woods. They also produced records dated a considerable time back, showing that there is a studied systematic plan which is being consistently followed. On an estate which covers such a wide area and which has each section a considerable distance from the other, it is extremely difficult to manage woodlands as a whole, but here the difficulty has been got over. On the Ripley Castle Estate, which was much smaller than the other properties, there was also clear evidence that the woodlands had been looked after on a pre-conceived scheme, and it cannot be too strongly impressed upon owners that they ought to have a fixed record of all their woodlands, in fact that they ought to have a working-plan, no matter how incomplete it may be, as with changing owners, agents and foresters, it is impossible to carry out a scheme by which management can be systematically carried out from the beginning of the wood's life to its end. As a matter of fact, the Judges should receive instructions that such a plan must be produced before the woodlands are inspected.

The Royal English Arboricultural Society's Gold Medal was awarded to the Jervaulx Abbey Estate of Mr. William L. Christie, as it showed a number of plantations in excellent condition, and the Judges experienced some difficulty in differentiating between them. They finally decided upon 16 acres of Witton Fell. The Judges considered it unjust to award the R.E.A.S. Gold Medal, and the Silver Medal from the Royal Agricultural Society to the same plantation, consequently no Silver Medal was awarded to this particular plantation, and the second best plantation received the Society's Silver Medal. It may be said that the Jervaulx Abbey plantations were very interesting and that those planted within the last 20 years showed great promise and are likely to prove of considerable value.

It may be said that the Judges met a number of owners at the Show who would have entered if they had known fully what the conditions were, and that the purpose of the competition was to encourage afforestation in their hands, and to make known to them how they could best plant afresh those woodlands which have been felled and plant bare areas which are unproductive at the present time. The Judges made every effort to give assistance.

Thanks are due to the owners, agents and their foresters for the courtesy which was always extended to the Judges. In a competition of this kind and from the information which is got from the schedules, it is impossible for the Judges to keep rigidly to a time-table, as many estates which appear to be comparatively small, have often woodlands wide distances apart. In the present instance, the time-table worked very well.

W. DAWSON } *Judges.*
A. E. WILSON }

REPORT OF THE JUDGES ON THE ORCHARDS AND FRUIT PLANTATIONS COMPETITIONS, 1929.

(*Restricted to an area comprising the East Riding of Yorkshire and the Counties of Lincoln and Norfolk, including the Isle of Ely. All orchards and plantations entered must have been in the occupation of the Exhibitor for at least two years before the date of entry.*)

CLASSES.

1. For the best managed orchard or orchards of fruit trees of not less than eight years' growth on uncultivated ground, being not less than 1 acre and not more than 8 acres.

2. For the best managed orchard or orchards of fruit trees of not less than eight years' growth on uncultivated ground, being over 8 acres.

(In Class 2, in cases of plantations of 16 acres or over, at least 50 per cent. of the total acreage on the holding had to be shown to the Judges.)

3. For the best managed orchard or orchards of fruit trees of not less than 8 years' growth on cultivated ground, being not less than 1 acre and not more than 4 acres.

4. For the best managed orchard or orchards of fruit trees of not less than 8 years' growth on cultivated ground, being over 4 acres.

In Class 4, 8 acres or over, being at least 50 per cent. of the total acreage on the holding, had to be shown to the Judges.)

In the above four classes trees may include all or any of the following varieties: Apples, Pears, Plums, Damsons, Cherries. The planting of bush fruit or other crops under the trees did not disqualify, but the trees only were taken into consideration.

5. For the best managed plantation of bush fruit, being not less than 1 acre, or more than 4 acres.

6. For the best managed plantation of bush fruit, being over 4 acres.

In Classes 5 and 6, young trees or a temporary crop planted between the bushes did not disqualify, but the bush fruit only was considered.

(Bush fruit may include all or any of the following kinds: Black Currants, Red Currants, Gooseberries, Raspberries, Loganberries.)

7. For the best managed orchard or orchards of fruit trees planted since November, 1920, being not less than 2 acres.

8. For the best managed plantation of strawberries of any age being not less than 1 acre.

(If there were more than 2 acres of strawberries on the holding, not less than 50 per cent. had to be shown to the Judges.)

The Royal Agricultural Society of England offered their Special Medal for the entry which received the highest number of points in any one of the classes. As in this competition two competitors tied for the highest number, two Medals were given.

Judging commenced on June 10 and terminated on June 14. The entries numbered 32, but one entry in Class 6 (No. 23) was withdrawn.

Class 1	No entries.
„ 2	2 „
„ 3	2 „
„ 4	2 „
„ 5	4 „
„ 6	13 „
„ 7	5 „
„ 8	4 „

Of these 3 entries were in the Wisbech area, 3 in the Spalding area, and the rest in Norfolk.

In Class 8 we used the same schedule of points for Judging as that used by the judges last year, which was as follows:—

	Strawberry Classes.	Other Classes.
(*a*) System of planting	10	15
(*b*) Pruning and shape	—	10
(*c*) General vigour and productiveness	15	15
(*d*) Freedom from pests and disease	—	15
„ „ small plants, pests, etc.	25	—
(*e*) Land cultivation, having regard to the profitable use of the ground	—	15
Freedom from weeds, hoe damage and bad planting	15	—
(*f*) Selection of varieties	5	5
(*g*) Economical and commercial aspect.	—	15
Freedom from rogues	10	—
(*h*) General appearance	15	5
(*i*) Fencing and protection	—	5
Strawing	5	—
	100	100

In making the following awards we were in full agreement as to the winning exhibits. In Class 6 we consider that Exhibit

No. 22, Messrs. Tyler Bros., deserves to be Very Highly Commended.

CLASS 1. No entries.

CLASS 2.

First: Colonel B. J. Petre, Westwick Fruit Farm, Westwick, Norwich.

A 13-acre grass orchard of standard cherries, varieties Early Rivers, Waterloo, Napoleon and Amber (Kentish Bigarreau). On the whole the trees looked healthy and were carrying a good crop. A certain amount of die back was present, and in one corner where the soil appeared to be unsuitable the trees were subnormal in vigour. The grass, though a little coarse, was well grazed. A good deal of dead wood still remains to be cut out. A sound commercial orchard and the only one of its kind we saw in the district. Cherry growing should be successful in many parts of Norfolk.

CLASS 2.

No award. B. N. and C. E. Smith, Monks House, Spalding.

A 10-acre plantation of large Bush Apple 15–17 years old. This plantation appeared to have got beyond control and had been allowed to fall down to grass. Bush fruits and market-garden crops could not grow well owing to the lack of cultivation, and the trees suffered from capsid and from lack of pruning.

CLASS 3.

First: J. W. Burrows, North Brink, Wisbech.

A plantation of 9-year-old Bush Apples, mainly Emneth and Grenadier 18 feet × 16 feet interplanted between tree rows with strawberries. An exceptionally well-cultivated small holding of vigorous and productive trees, carefully pruned and with scab and capsid well under control.

CLASS 3.

Second: Mrs. A. Grüb, The Walnuts, Smeeth Road, Emneth, nr. Wisbech.

An extremely well-managed small holding, more intensively cultivated than the other entry, but with less attention to detail. The apples were carrying an excellent crop, but were planted rather too closely in the row, and, particularly in the case of the Lanes, would repay more careful pruning.

Every effort had been made to control scab and capsid, but some spray injury had occurred.

CLASS 4.

First: Colonel B. J. Petre, Westwick Fruit Farm, Westwick, Norwich.

About 6 acres vigorous and highly productive mixed plantation, mainly 17-year-old standard apples (Emneth) with 8-year bush pears (Conference) interplanted, carrying a good crop, although by no means entirely free of disease. The undercrop of raspberries was patchy and detracted from the general appearance. At the same time it was clear that the crop brought something in without interfering with efficient cultivations.

Second: J. Lefevre, Meadowgate Lane, Elm, Wisbech.

About 5 acres of Bush Apples, mainly Bramley, Lanes and Emneth at 16 feet × 12 feet with gooseberries and red currants between and in the tree rows. Disease had been only partially controlled, though this may not have been entirely the fault of the cultivator. It was felt that if the trees had been planted a little wider in the rows and rather more attention had been paid to pruning and protection a really first-rate plantation would have resulted.

CLASS 5.

First : Tyler Bros., Hall Farm, Southrepps, Norwich.

About one acre of Black Currants planted 6 feet × 4 feet under half-standard plums. Varieties, Victoria and a long strigged variety of the French type known as "French Baldwin." Full marks were awarded for cultivations and an economical and commercial aspect, the bushes being exceptionally vigorous and healthy and carrying a large crop.

Second : Walter Wade, Junr., Poplar House, Aylsham, Norfolk.

About 3 acres of Black Currants, varieties French and Boskoop, relatively free from disease and carrying a fair crop. The cultivations were exceptionally good, and the plantation showed signs of close attention to detail.

G. S. Durrell, West End Lodge, Aylsham.

A fine piece of Black Currants, varieties Daniel's September and French. The larger part (5 years) appears to be just past its best, and reversion is beginning to get hold. Cultivations excellent.

Lieut.-Col. G. E. Todd, Mundham House, Brooke, Norwich.

Three acres of Black Currants (Victoria and Seabrook), Raspberries (Lloyd George and Norwich Wonder), and 2 rows of Gooseberries (Whitesmith).

Most marks were lost through disease, one lot of raspberries being badly affected by mosaic, and the black currants had too much reversion and capsid.

The Lloyd George and Whitesmith were above normal, but it was felt that the method of planting and general lay-out was below the general high standard of the district.

CLASS 6.

First : J. F. Gowing, Honingham Thorpe, Norwich.

Two marks were deducted for general vigour and productiveness, the crop, though good, not being a full one; 4 marks were deducted for a small degree of caterpillar, capsid, and reversion, and one mark for the sharp ridge down the middle of the alley. Otherwise full marks were given to a magnificent piece of French Blacks with a north aspect.

Second : Lord Fisher of Kilverstone, Kilverstone Hall, Thetford.

Only one mark between this and the first prize entry; the bushes were mostly younger and it was felt that the aphis should have been better controlled. The same cutting in the alley way, as in the last entry, lost one point, and two points were deducted under economical and commercial aspect, the judges feeling that the first entry was on the whole both more economical and more commercial.

Very Highly Commended : Tyler Bros., Hall Farm, Southrepps, Norwich.

A remarkably well cultivated piece of Black Currants, varieties Victoria, Baldwin, and Boskoop. Too much aphis and reversion in the Victorias and reversion here and there in the Baldwins. It was felt that the plant, 6 feet × 4 feet, might be rather too close for the Boskoops.

Robert John More & Son, Tunstall, Halvergate, Norfolk.

Another very fine piece of Black Currants, mainly French type with some younger Boskoops. There was one bad patch of reversion and individual cases scattered about. Cultivations were excellent, but it was felt that more protection was required.

Edward Gladden, Hethersett Hall, Norwich.

A nice piece of Black Currants. Distance between rows appeared to be too small for the ridge system; there was a certain lack of uniformity in vigour and several replants; *the stock contained some rogues.*

William Bracey, Manor House, Martham, Great Yarmouth.

About 13 acres of French Blacks planted 8 feet × 4 feet on the alternate bush and cutting system. Bushes were rather too full of old wood; there were signs of reversion, and cultivations were not quite up to standard.

William Bracey, Manor House, Martham, Great Yarmouth.

Another entry of Black Currants from the same competitor. Pruning not so good, vigour and productiveness about the same; reversion and capsid bad, but cultivations rather better.

E. H. Evans-Lombe, Markingford Hall, Norwich.

A 7-acre piece of Black Currants planted rather too close in the row and with rather too much disease. The crop appeared to have suffered from frost damage; cultivations excellent.

James Benton, Boundary Farm, Sutton, Stalham, Norwich.

Black Currants. In our opinion the bushes were planted too closely in the row and consequently suffered from lack of vigour. Bushes looked healthy and cultivations were very good.

B. C. Perowne, Banningham, Aylsham, Norfolk.

Black Currants planted at varying distances in the row and showing very considerable variation in vigour and productiveness. There was too much reversion, capsid and caterpillar, and it was felt that the economical and commercial aspect was not up to standard.

Broome Fruit Farm, Ditchingham, Norfolk.

Three acres of Lloyd George Raspberries and 10 acres of Black Currants. Raspberries excellent, but black currants disappointing. Capsid and caterpillar bad and cultivations poor. Very fine natural conditions for fruit here. A little more attention to details would be sure to produce excellent results.

Colonel B. J. Petre, Westwick Fruit Farm, Westwick, Norwich.

Several varieties of Black Currants planted here and showing considerable variations in vigour and productiveness. Too much disease present, and it was felt that while the plantation was serving a very useful purpose as a test for new varieties it was distinctly handicapped in competition with more commercial plantations.

CLASS 7.

First: E. F. Routh Clarke, Wattlefield Hall, Wymondham, Norfolk.

A very promising young 10-acre plantation of half-standard plums, Victoria, Czar, Early Rivers, and Giant Prune at 24 feet with Black

Currants below. The trees were vigorous and comparatively free from disease, and while the cultivations were not perfect, it was evident that both top and bottom fruit were receiving careful attention.

Second : Lieut.-Col. G. E. Todd, Mundham House, Brooke, Norwich.

A small piece of very well-grown 9-year standard apples, Bramley and Blenheim at 36 feet in the row, and 30 feet between the rows, on a strong clay loam, with Black Currants at 6 feet square below. Some caterpillar in the tips of the apple trees; tree guards rather small.

Broome Fruit Farm, Ditchingham, Norfolk.

A most promising young plantation, suffering from insufficient cultivations and showing only partial control of diseases. The bush apples were well shaped and carried a fair crop, and the bottom fruit, black currants, showed considerable vigour. If taken in hand at once, this should make a very paying piece of fruit. If left it will probably go downhill very fast.

M. A. Todd, Lee Cottage, Sheringham, Norfolk.

Plantation of Bush Apples, 6 and 7 years old, over Black Currants, and some strawberries. Trees well pruned, and carrying a good crop. Unfortunately marks were lost on disease, the Worcester and Rivals being severely damaged by canker; there was some caterpillar, and some spray damage. Some excellent trees of Ellison's Orange.

B. N. and C. E. Smith, Monk's House, Spalding.

A plantation of Bush Apples rather closely planted and growing vigorously, but many marks were lost owing to disease and to lack of cultivations.

CLASS 8.

First : F. G. F. Glenny, Surfleet, Spalding.

A fairly full plant of Paxtons, carrying a fair crop, but severely damaged by caterpillar. A quite exceptional piece of Royal Sovereign, showing great vigour and uniformity, well cultivated and remarkably free from disease.

Second : M. A. Todd, Lee Cottage, Sheringham, Norfolk.

A good piece of Royal Sovereign, showing considerable vigour, and comparative freedom from rogues. The general appearance a little gappy, with some red plants and others showing signs of past aphis damage. Cultivations showed signs of careful hoeing.

L. F. Winter, Stonegate Farm, Aylsham, Norfolk.

A single row plant of Leader, Royal Sovereign, and Madam Kooi. Plenty of vigour, but much variation and a good deal of gapping up. Some cauliflower and red plant.

H. G. Cushion, Hill Farm, Surlingham, Norfolk.

A plant of Royal Sovereign and Paxton of varying age. The young plant was extremely uniform and well cultivated though lacking in vigour. The older piece, though showing signs of past vigour, was now past its best, and had suffered from what appeared to be past aphis damage.

LIST OF POINTS.

The marks awarded to each competitor were as follows :—

Class	No.	Competitor	Award	(*a*)	(*b*)	(*c*)	(*d*)	(*e*)	(*f*)	(*g*)	(*h*)	(*i*)	Total
2	1	Col. Petre	1	12	8	13	13	13	5	14	4	5	87
	2	B. N. & C. E. Smith		15	5	8	5	5	5	8	2	5	58
3	3	J. W. Burrows	1	14	9	12	12	15	5	13	5	5	90
	4	Mrs. A. Grüb	2	13	8	14	10	15	5	14	4	5	88
4	5	J. Lefevre	2	10	7	12	10	12	5	12	4	4	76
	6	Col. Petre	1	10	8	14	11	12	3	12	4	5	79
5	7	G. S. Durrell		14	9	13	8	14	5	12	3	4	82
	8	Col. Todd		10	10	7	8	12	3	10	3	3	66
	9	Tyler Bros.	1	14	9	14	12	15	5	15	4	5	93
	10	W. Wade, Junr.	2	13	9	12	13	14	5	14	5	4	89
6	11	J. Benton		12	10	9	14	14	4	12	5	3	83
	12	W. Bracey		14	8	10	12	12	5	14	5	5	85
	13	W. Bracey		14	7	10	10	13	5	14	5	5	83
	14	Broome Fruit Fm.		13	10	9	8	9	5	15	3	5	77
	15	E. H. Evans-Lombe		14	10	9	9	15	5	15	3	4	84
	16	Lord Fisher	2	15	10	15	12	14	5	13	5	3	92
	17	E. Gladden		13	10	13	14	13	3	13	4	5	88
	18	J. F. Gowing	1	15	10	13	11	14	5	15	5	5	93
	19	R. J. More & Son		14	10	10	10	15	5	15	5	5	89
	20	B. C. Perowne		14	8	11	9	13	4	10	4	5	78
	21	Col. Petre		13	8	10	7	14	4	10	4	5	75
	22	Tyler Bros.	V.H.C.	14	10	14	10	15	5	14	4	4	90
7	24	Broome Fruit Fm.		14	9	14	10	10	4	15	3	5	84
	25	E. F. Routh Clarke	1	12	8	15	12	12	5	15	5	5	89
	26	B. N. & C. E. Smith		13	8	12	8	—	5	8	2	5	61
	27	Col. Todd	2	15	9	12	12	12	5	12	5	4	86
	28	M. A. Todd		15	9	12	10	13	4	13	3	4	83
8	29	H. G. Cushion		10	—	8	12	10	5	8	10	—	63
	30	F. G. F. Glenny	1	10	—	13	18	12	5	10	13	—	81
	31	M. A. Todd	2	10	—	12	20	10	5	9	13	—	79
	32	L. F. Winter		10	—	9	20	12	5	9	11	—	76

GENERAL NOTES.

(*a*) Black Currant Growing in Norfolk.

Black currant growing being a specialised industry in Norfolk, it was not surprising to find that 17 out of the total of 32 entries consisted of black currant plantations. We should like to say that we cannot speak too highly of the standard of management which obtains in the plantations which we visited, not only in respect of vigour but also with regard to cultural and manurial practice. In these directions the Norfolk growers have undoubtedly set a high standard, and our first recommendation to all who think of planting up this fruit, is to go to Norfolk and study the methods prevailing there.

In most cases the bushes were planted on wide ridges, about 8 feet apart, with a gradual slope on each side down to the centre of the alley way. The surface soil was left in a moderately fine tilth and usually a heavy dressing of dung was lightly turned under or topdressed in the form of a mulch.

Distances in the row varied from 2 to 4 feet between bushes. The average distance appeared to be about 4 feet, but in many cases the bushes were considerably closer owing to a practice, which appears to be increasingly popular, of planting yearlings at 8 feet in the row, and simultaneously planting one or two cuttings at varying distances in the row between the yearlings. Sometimes a cutting would be planted close beside a yearling plant with the idea of getting a large bush quickly. On some soils it was evident that cuttings planted in this way grew away even faster than the yearling plants. We could not help remarking, however, that this method of close planting appears to have its disadvantages, the bushes, although showing great vigour, tending to become overcrowded in the row, with the result that the lower parts of the bush were bare of fruiting wood. Probably this disadvantage would be got over by systematic grubbing of the filler bushes when the plantation is properly established.

(*b*) BLACK CURRANT VARIETIES.

Judging from the plantations we saw, it would appear that by far the largest acreage of black currants in Norfolk is devoted to the French type. The strains we saw were exceptionally vigorous, and compared with other black currant districts, they were more or less true to type, Boskoop being the most consistent rogue to be found among them. Boskoop seems to be more widely grown than either the Victoria or the Baldwin groups, and whilst this variety showed its usual vigour, we were not impressed by its productiveness.

We saw two very good pieces of Victoria, both vigorous and fruitful, but with this variety in Norfolk as elsewhere diseases would appear to be the limiting factor, particularly with regard to aphis and reversion.

Wherever we saw the Baldwin types, they were carrying larger crops than anything else, and in our opinion this is a variety which should be widely planted in Norfolk. Great care should be exercised in selecting the most suitable strain of Baldwin, but where this is done results should be satisfactory since the type of soil most popular for black currant growing in Norfolk, and the high farming conditions which prevail there for this crop, provide ideal conditions for this variety. From what we saw of Davison's Eight, this variety also is worthy of more extended trials.

(*c*) DISEASES OF BLACK CURRANTS.

The plantations we saw were on the whole remarkably free from aphis, tar oils being widely used in winter. We were surprised to see so much caterpillar damage under these conditions, and it seems that tar oils at strengths under 10 per cent. had failed to control this pest this year.

As a matter of fact caterpillar seems to be unusually severe all over the country this year. The capsid bug (*Lygus pabulinus*) was to be found widely distributed geographically over Norfolk, but although in a few cases damage was severe, in no case had the pest been responsible for a serious decrease in the vigour of the plant. At the same time, in view of the evidence from districts where this pest is of economic importance, we think it would be wise to keep a close watch on the incidence of this capsid in Norfolk.

Reversion, whilst slight in comparison with other fruit-growing districts, is undoubtedly gaining ground in some of the older plantations. We only found obvious big bud mite in one of the plantations visited.

Remembering, however, that in the French type mite-infected buds are not usually swollen, it is probable that there is more mite-infection in the area than is obvious.

It was interesting to find that one or two cases where reversion was definitely bad there was also severe capsid damage, and whilst we know of no evidence to show that capsid is a carrier of reversion, this is nevertheless a possibility which ought not to be lost sight of.

(*d*) SHELTER AND FROST DAMAGE.

Crops were, generally speaking, on the light side in the black currant plantations visited, and while various explanations for this were offered, it appeared to us that there were two main contributing causes. In the first place frost had in some cases definitely killed the flower trusses, and in the second place some physiological disturbance, caused probably by a sudden check after the commencement of growth, had resulted in a considerable running off of the fruit. This check may have been due in some cases to drought, and in other cases to exposure.

In this connection it is interesting to note that in more than one place we were given convincing proof of the value of some form of temporary shelter such as that provided by hop lewing.

(*e*) OTHER BUSH FRUITS.

We saw very little of other bush fruits. Such raspberries as we did see looked both vigorous and fruitful, and there seems little doubt that under such excellent conditions of management as prevail in the black currant districts, raspberries could be very well grown.

In the case of gooseberries, the tradition for high nitrogen and relatively low potash manuring which usually obtains with black currants makes gooseberry growing a more speculative crop here than raspberries, especially on soils which tend to be naturally deficient in potash.

Red currants, where seen, appeared to be growing well, and in view of the very fair prices which have ruled for this crop during the last two years, we were surprised to find such a relatively small acreage. Possibly the reason for this lies in the fact that with the more vigorous varieties, such as Fay's Prolific, it is difficult to get established bushes without the protection of top fruit.

(*f*) STRAWBERRIES.

Of the four entries in this class, one was at Spalding, and the other three were in Norfolk. Crops looked promising, and at the time of our visit aphis was conspicuous by its absence.

(*g*) TREE FRUITS IN NORFOLK.

We were surprised to see such a comparatively small acreage of tree fruits in Norfolk, the conditions in many parts of the county appearing to be quite as well adapted to these as many of the old-established fruit districts. Evidently on some of the sandy soils there would be a danger of canker on certain varieties of apples and pears; on the other hand, the comparatively low rainfall and high rate of evaporation should be specially suitable for grass orchards of cherries, provided means could be found to keep them closely grazed and heavily manured with phosphatic and potash fertilisers. Plums also, to judge from those we saw, should grow well in Norfolk. In this connection we should like to draw the attention of intending planters to the possibilities of canning becoming an established industry in this country, and the consequent need for planting up such varieties of all fruits as are most suitable for canning, provided these are such as can be grown in the district.

(*h*) TREE FRUITS IN THE WISBECH DISTRICT.

We were much impressed, in the plantations visited in the neighbourhood of Wisbech, by the careful attention paid to the control of diseases, particularly apple capsid and apple scab. That such attention is badly needed was only too evident from the appearance of such trees as had not been sprayed, but the fact that this need appeared to be so widely recognised, and that efforts were being made by so many growers to keep these two diseases in check, forms a remarkable tribute, not only to the enterprise of these growers, but also to the advisory service rendered by the provincial advisory centre and the local educational authorities.

CONCLUSION.

In conclusion, we should like to tender our best thanks to all those who helped in the organisation of our judging tour, especially—

Mr. H. Goude, Horticultural Supt., Norfolk.
Mr. J. C. Wallace, Principal, Agricultural Institute, Kirton, nr. Boston.
Mr. W. G. Kent, Horticultural Supt., Wisbech.

Our thanks are also due to the competitors and to Mr. E. C. Boughton, of the N.F.U. Headquarters.

W. P. Seabrook }
N. B. Bagenal } *Judges.*

REPORT OF THE COUNCIL TO THE ANNUAL GENERAL MEETING OF GOVERNORS AND MEMBERS OF THE SOCIETY,

HELD AT THE

Royal Agricultural Hall, Islington, London, N.,

On WEDNESDAY, December 11, 1929, *at* 2.15 *p.m.*

Membership.

1. The Council have to report that the list of Governors and Members has undergone the following changes since the Annual General Meeting on December 12, 1928:—29 new Governors (including 8 transferred from the list of Members under Bye-law 9 and 1 Member transferred to list of Honorary Life Governors), and 646 new Members have been elected and 5 Members have been re-instated under Bye-law 14; whilst the deaths of 12 Life Governors, 13 Governors, 87 Life Members, and 224 Members have been reported. 1 Life Governor, 16 Life Members and 22 Members have been struck off the books under Bye-law 12, owing to absence of addresses; 4 Governors and 165 Members under Bye-law 13, for arrears of subscription; 7 Governors, 2 Life Members and 372 Annual Members have resigned.

2. By the death in April last of the Earl of Northbrook the whole farming community, and the Royal Agricultural Society especially, sustained a real loss. Elected a Member of the Society in 1880, Lord Northbrook joined the Council in 1889; he became a Vice-President in 1905, a Trustee in 1911, and President in 1913 when the annual Show took place at Bristol. A prominent part was taken by his Lordship in the work of many of the Committees of the Council; from 1905 to 1926 he was Chairman of the Veterinary Committee, and in 1927 he became Chairman of the Committee of Selection and General Purposes. He was Chairman of the Tuberculosis (Animals) Committee, which did useful work in safeguarding the interests of agriculturists in the years before the war. During and after the war he devoted much of his time and energy to the work of the Agricultural Relief of Allies Committee, of the Executive of which he was Chairman.

3. The Council have lost another of their number by the death of Mr. Charles Coltman-Rogers, whose association with the Society began with his election as a Member in 1883. He served on the Council as representative for South Wales from 1897 to 1918, in which year he became a Vice-President. His chief activities were exercised as Chairman of the Botanical and Zoological Committee since 1908 and as Steward of Forestry at the annual Shows since 1909.

4. Amongst other Governors and Members whose loss by death the Society has to deplore are the Marquis of Zetland, K.T., the Dowager Marchioness of Cambridge, the Earl of Durham, K.G., the Earl of Harewood, G.C.V.O., the Earl Howe, G.C.V.O., the Earl of Rosebery, K.G., Viscount Portman, Lord Aberdare, Lord Avebury, Lord Barnby, Lord Crawshaw, General Lord Horne, G.C.B., K.C.M.G., Lord Montagu of Beaulieu, K.C.I.E., C.S.I., Lord Arthur Grosvenor, Major Sir Harry Barnston, Bart., M.P., Sir Aubrey Brocklebank, Bart., Sir Charles W. Macara, Bart., Sir H. F. de Trafford, Bart., Admiral Sir F. B. Bridgeman, G.C.B., G.C.V.O., Lieut.-General Sir Herbert Chermside, G.C.M.G., C.B., Sir Arthur Nicholson, Sir R. Henry Rew, K.C.B., Sir John Robinson, Sir Mortimer Singer, K.B.E., Mr. G. A. Bellwood, Capt. F. Brian F. Bibby, Mr. John Chivers, Mr. C. B. Fisher, Mr. William Gibson, Mr. Robert Gray, Brig.-Gen. Harold Grenfell, C.M.G., Mr. George Holt-Thomas, Mr. Henry Jonas, Capt. W. S. Byrd Levett, Mr. William A. May and Professor T. B. Wood, F.R.S.

Numbers on Register.

5. The above and other changes bring the total number of Governors and Members on the Register to 11,317, divided as follows :—

155 Life Governors;
271 Annual Governors;
1,920 Life Members;
8,955 Annual Members;
16 Honorary Members;

11,317 Total number of Governors and Members, as against a total of 11,571 on the Register at the time of the last Annual Report.

Honorary Life Governor.

6. In recognition of the services rendered by him to the Society, the Council have elected Mr. William Bainbridge as an Honorary Life Governor. He, it will be remembered, was Lord Daresbury's agent and assisted his Lordship in the manifold duties devolving upon him as Honorary Director of the Royal Show for a period of over 20 years.

Changes in the Council.

7. Lord Harlech has been elected a Trustee in place of the Earl of Northbrook. The Earl of Harewood, K.G., and the Rev. C. H. Brocklebank have been appointed to fill vacancies in the list of Vice-Presidents.

Captain H. G. Buxton was elected for 1929 as the representative of the Division of Norfolk in place of Mr. Henry Overman, who, in December last, felt it necessary to resign his seat on the Council owing to ill-health.

Elections to the Council.

8. Under the scheme of rotation, the Members of Council who retire at the forthcoming annual meeting are those representing the electoral districts of Group A, comprising Bedfordshire, Cheshire, Cornwall, Derbyshire, Dorset, Hampshire and the Channel Islands, Hertfordshire, Lancashire and the Isle of Man, Middlesex, Monmouthshire, Norfolk, Northamptonshire, Northumberland, Staffordshire, Worcestershire, Yorkshire (North Riding), and Scotland. An election is also proceeding in Cambridgeshire, where a vacancy has been created by the election of the Rev. C. H. Brocklebank as a Vice-President.

Governors and Members registered in the districts concerned have been notified, and the customary procedure is being followed for the election or re-election of representatives for the Divisions concerned.

Council Meetings in 1930.

9. The Council have fixed the following dates for their meetings in 1930: February 5, March 5, April 2, April 30, June 4, July 9 (in Manchester showyard), July 30, November 5, December 10 (Annual General Meeting).

Accounts.

10. In compliance with the Bye-laws, the balance-sheet has to be presented for consideration at the Annual Meeting. The Council therefore beg to submit the Balance-sheet, with Receipts and Payments for the year 1928. These Accounts were published in Vol. 89 of the JOURNAL issued to Governors and Members this year, having been certified as correct by the Professional Accountants and Auditors appointed by the Members. Copies of the Accounts will be available for reference at the Meeting on December 11.

Harrogate Show.

11. The 88th Annual Show of the Society took place at Harrogate from the 9th to the 13th July. Though less extensive than any ground on which the "Royal" has been held for a long period, the portion of the Stray generously set apart by the Corporation of Harrogate was of such a nature that every part of it could be utilised. The area available was so level and regular in shape that, notwithstanding its small size, it was possible to include without curtailment all the customary features. The compactness of the Show was the subject of much favourable comment and was evidently highly appreciated by visitors, who found it easy to get about and see the particular exhibits in which they were especially interested.

12. Entries in almost every section were well up to the average of post-war Shows, the weather was all that could be desired, and the attendance during the five days reached 124,017, the largest number at any show since that at Newcastle in 1923.

13. In every way the Harrogate Show was a great success, and a substantial surplus of receipts over expenditure may be looked for. For the highly satisfactory results achieved the Society is greatly indebted to H.R.H. the Duke of York, who, at very short notice and at some inconvenience, attended the Show on Wednesday, July 10, in place of Her Majesty the Queen, who had promised to attend on that day, but who at the last moment was precluded from visiting Harrogate by reason of the arrangements then being made for the journey of His Majesty the King from London to Sandringham; to H.R.H. Princess Mary (Countess of Harewood), who visited the Show each day and took a keen and personal interest in the exhibition in all its sections; to the President; to the Mayor of Harrogate; and to Sir Harold Mackintosh.

14. The name of Sir Harold Mackintosh must stand out as one who not only bore the brunt of the local organisation, but who devoted his individual attention to the most minute detail which, in his opinion, would contribute to the success of the

Show. The special advertisement in the district, the sale and distribution of tickets, the railway services, the road, bus, and transport services, are all matters in which he particularly interested himself on behalf of the Society, and a great measure of the success of the Show is undoubtedly due to the indefatigable efforts he made and to his great local knowledge. His name was coupled with the Vote of Thanks to the Local Committee, and on no occasion have the thanks of the Society been more worthily earned than in connection with the Harrogate Show by Sir Harold Mackintosh. It is hoped that the interest evinced by him will not wane, but that he will continue to give the Society his help on future occasions, not only in connection with the Show itself, but in the other activities of the Society.

The Society is also under a debt of gratitude to the Town Clerk of Harrogate, Mr. J. Turner Taylor, who from the commencement, when the idea of having the Show at Harrogate was first mooted, has thrown his whole energies into the work. His extensive local knowledge and experience as Town Clerk rendered him peculiarly fitting to discharge the duties of Local Hon. Secretary.

Mr. C. E. Rivers, the Borough Surveyor, also devoted a tremendous amount of attention to the preparation of the Showyard site and to the work involved. To him is due a very large measure of the congratulations received by the Society on what was one of the most compact Showyards in which the Royal Show has been held.

Provision for Refreshment and Recreation of Herdsmen and Stockmen.

15. In continuation of the experiment commenced at the Royal Show in Nottingham in 1928, arrangements were made for the Young Men's Christian Association to provide three Coffee Bars in the Showyard at Harrogate, and to have the use on each evening during the week of the large Members' Tent, in which Entertainments could be arranged for the herdsmen and stockmen.

16. The Coffee Bars and the services rendered by the auxiliary workers were much appreciated by the men. They are now able to get a hot drink and meal immediately upon arrival in the Showyard, at any time of the day or night, and also to refresh themselves during the day or night, on Saturday, Sunday, or Monday after the Show, prior to leaving by their respective trains. The Concerts given in the large Members' Tent were well attended, even in spite of the fact that the Showyard at Harrogate was in such close proximity to the town. There is perhaps room for better organisation here and for some means of making the Concerts better known, but it is thought that when the men get accustomed to the Concerts and know the

hours at which they are given, they will take advantage of them to the full. At Manchester, the organisation of the Y.M.C.A. is so thorough and up-to-date that improvement will doubtless be made on the work carried out at Harrogate. The experiment has, however, certainly justified the Council in its adoption, and the spontaneous thanks of the men are appreciated by the voluntary helpers at the Bars and Concerts.

Royal Show Film.

17. During the first two days of the Harrogate Show a special film was taken by Messrs. Cooper, McDougall & Robertson, depicting various incidents during the Show, including the judging of the various Classes of Stock, and the Cattle Parade, as well as the Official Visit of the Duke of York, and the tour of His Royal Highness with Princess Mary round the Showyard. This film will be exhibited on the ships of the Royal Mail Steam Packet Co., Ltd., with a special request, at the end, that the date of the Royal Show at Manchester should be noted, and that passengers in this country at the time of the Show should endeavour to attend. Through the kindness of Messrs. Cooper, McDougall & Robertson, and the Steamship Company referred to, the Society is thus able to get an Overseas advertisement at a very moderate outlay.

Shows and Foot and Mouth Disease Regulations.

18. In the past three years, when the Royal Show has been held at Reading, Newport, and Nottingham, outbreaks of Foot and Mouth Disease have occurred in some part of the country, and the Ministry of Agriculture made the usual Orders for the isolation of animals in the Showyard from the radius in which the outbreak occurred and the detention of such animals for a further period after the closing of the Show.

19. Representations have continually been made to the Ministry of Agriculture, that in the event of a repetition of this occurrence, instead of isolating the animals from such radius, in or adjoining a Showyard and detaining them after the close of the Show, they should be entrained in a special train and sent direct from the Showyard to their homes before the infected area was finally sealed.

20. The Dairy Shows of 1928 and 1929 were affected by a similar Regulation, owing to outbreaks of Foot and Mouth Disease in Kent, and, in consequence, they have supported the representations of this Society regarding the method of dealing with stock in a Show when an outbreak of Foot and Mouth Disease occurs in the country subsequent to the opening of the Show.

21. So far the Ministry of Agriculture has not seen fit to

adopt the suggestion of this Society, and endorsed by the British Dairy Farmers' Association, but they are considering the matter and are hopeful of arriving at some solution of the difficulties now encountered without in any way inflicting further hardship upon Show-promoting Authorities or Exhibitors.

"New Implements."

22. This year a revised scheme was put into operation in connection with the "new implements" entered for the Society's Silver Medals. In cases where it is considered necessary, an implement or machine entered is now subjected to test in advance of the Show by the Society's Consulting Engineer, at the Institute of Agricultural Engineering, Oxford, and a report furnished for the information of the judges of Miscellaneous Implements before they make their inspection of the entries in the showground. Modification of the conditions governing the award of medals has undoubtedly resulted in the elimination of trivial or frivolous entries; consequently at Harrogate there was a reduction in the number of entries, and an increase in the ratio of number of awards to entries. The Judges' Report will appear as usual in the next volume of the JOURNAL.

Trials of Agricultural Tractors.

23. The Council, upon the advice of the Implement Committee, agreed to organise Trials of Agricultural Tractors upon a world's scale next year. In view of the development which has taken place since 1920, and the important part in Agriculture now played by the Tractor, it is considered that the time is ripe for further Trials and exacting Tests.

24. The Regulations governing the Trials have been drawn up in conjunction with the Institute of Agricultural Engineering, Oxford, who are acting conjointly with the Society in carrying out the Tests and Trials. A very comprehensive Schedule of Tests has been provided and circulated to possible Exhibitors. It is proposed to divide the scheme into two parts:—

(1) A testing period occupying from the 1st June to the 1st September, 1930, and
(2) Demonstrations to be held from the 16th to the 19th September, 1930.

25. The Society has the advantage of the whole of the personnel of the Institute of Agricultural Engineering, at Oxford, in the supervision of the Tests and also of a certain amount of money, which they are able to utilise in connection with the Trials owing to the joint organisation.

26. Entries are now being received for the Trials, and an announcement will shortly be made as to the number of entries received, and the countries represented by machines in the Tests.

Sugar Beet Harvesting Machinery.

27. Shortly after the issue of the last Annual Report, members of the Implement Committee of the Council had a conference with representatives of the Ministry of Agriculture on the question of the desirability of organising in the near future trials of machines suitable for the harvesting of the Sugar Beet crop. Having carefully considered the report of this conference, the Society's Implement Committee expressed the opinion that existing circumstances did not warrant the Society holding such trials; and at the same time made a suggestion to the Ministry that they should themselves undertake research work on the problem of the adaptability of beet harvesting machinery to the needs of this country.

Seed Drills.

28. No further steps have yet been taken regarding the organisation of trials of Seed Drills suggested by the Research Committee as the result of experiments at the Norfolk Agricultural Station. Investigations at the Norfolk Station have been continued during the past year.

Plantations and Estate Nurseries.

29. Forty-six entries were made in this year's competition for Plantations and Estate Nurseries, which was restricted to Yorkshire. The Royal English Arboricultural Society's Gold Medal for the best plantation was gained by Mr. William L. Christie, of Jervaulx Abbey. In the class for the best managed woodlands on an estate of not less than 1,000 acres the Royal Agricultural Society's Silver Gilt Medal was awarded to the Zetland Estates Company.

30. The area of next year's competition will be the counties of Somerset, Devon, and Cornwall.

Orchards and Fruit Plantations.

31. The competition for Orchards and Fruit Plantations was on this occasion confined to an area comprising the East Riding of Yorkshire and the counties of Lincoln and Norfolk, including the Isle of Ely. There were thirty-two entries in the eight classes. In connection with the offer of the Special Medal for the entry receiving the highest number of points, it was found that two competitors had tied. It was therefore decided to award two medals. The winners of these were Mr. John F. Gowing, of Honingham Thorpe, Norwich, and Messrs. Tyler Brothers, of Hall Farm, Southrepps, Norwich.

32. Next year the competition will be restricted to the West Midland area comprising the counties of Hereford, Worcester, Gloucester, Warwick, and Shropshire.

Awards for Long Service.

33. Under the scheme of awards to Farm Servants for Long Service, bronze medals and certificates were this year offered by the Society in the county of Yorkshire. Medals and certificates will, in due course, be forwarded to those qualified to receive them.

Next Year's Show.

34. The 89th annual exhibition of the Society will be held at MANCHESTER from Tuesday, July 8, to Saturday, July 12. The Royal Lancashire Agricultural Society have, in consequence, decided to forgo their Show in 1930.

Prize List.

35. The Prize List for the 1930 Show will, with certain alterations, be similar to that for the Harrogate Show. Offers of Champion and other prizes have been received from the following:—Shire Horse Society, Clydesdale Horse Society, Suffolk Horse Society, British Percheron Horse Society, Hunters' Improvement and National Light Horse Breeding Society, National Pony Society, Shetland Pony Stud Book Society, Shorthorn Society, Hereford Herd Book Society, Devon Cattle Breeders' Society, Sussex Herd Book Society, Sussex Cattle Breeders' Society of South Africa, Welsh Black Cattle Society, Aberdeen-Angus Cattle Society, English Aberdeen-Angus Cattle Association, Argentine Aberdeen-Angus Association, Dun and Belted Galloway Cattle Breeders' Association, Galloway Cattle Society, Dairy Shorthorn Association, Lincolnshire Red Shorthorn Association, South Devon Herd Book Society, Red Poll Cattle Society, Blue Albion Cattle Society, British Friesian Cattle Society, Ayrshire Cattle Herd Book Society, English Guernsey Cattle Society, English Jersey Cattle Society, British Kerry Cattle Society, Dexter Cattle Society, Co-operative Wholesale Society, Oxford Down Sheep Breeders' Association, Shropshire Sheep Breeders' Association, Southdown Sheep Society, Hampshire Down Sheep Breeders' Association, Suffolk Sheep Society, Dorset Down Sheep Breeders' Association, Dorset Horn Sheep Breeders' Association, Wiltshire or Western Horn Sheep Society, Ryeland Flock Book Society, Kerry Hill (Wales) Flock Book Society, Clun Forest Sheep Breeders' Association, Lincoln Longwool Sheep Breeders' Association, Society of Border Leicester Sheep Breeders, Wensleydale Longwool Sheep Breeders' Association, Kent or Romney Marsh Sheep Breeders' Association, South Devon Flock Book Association, Swaledale Sheep Breeders' Association, Herdwick Sheep Breeders' Association, Cheviot Sheep Society, Welsh Mountain Sheep Flock Book Society, Black Welsh Mountain Sheep Breeders' Association, National Pig Breeders' Association, Large Black Pig Society, Gloucester-

shire Old Spots Pig Society, Cumberland Pig Society, Essex Pig Society, National Long White Lop-Eared Pig Society.

In the Cheese Section the Members of the Cheshire Hunt are providing the Prize Money for two Classes for Cheshire Cheese made, owned and exhibited by any Farmer whose land is hunted over by the Cheshire Hounds. A Champion Silver Cup is also offered for the best exhibit of Cheshire Cheese in above Classes.

Special Prizes are being contributed in the Poultry section by the Sussex Poultry Club, Columbian Wyandotte Club, and British Black Barnevelder Club.

Closing of Entries.

36. Intending exhibitors at Manchester are reminded that the final date for receiving entries of horses, cattle, goats, sheep, pigs and produce is MAY 20, and no substituted entries will be permitted. Entries of Poultry close on May 31.

Applications for space in the Implement, etc., Department must be made not later than March 20.

Entries of New Implements for the Society's Silver Medal must be made by March 1.

Schedules and entry forms will be ready for issue in the New Year. To prevent disappointment, Members are particularly requested to make early application.

Show of 1931.

37. In 1931 the Society's annual exhibition will be held at Warwick.

Judges in South America.

38. At the request of the Argentine Rural Society, the Council again appointed Judges to officiate at the Palermo Show. The panel this year was as follows:—

Shorthorns.—Mr. John Crombie, Haselor, Evesham.

Herefords.—Mr. Richard Medlicott, Hampton Park House, Stoke Prior, Leominster.

Aberdeen-Angus Cattle and Clydesdale Horses.—Mr. James C. Booth, Downiehills, Peterhead.

Lincoln Sheep, Blackface Sheep, and Shire Horses.—Mr. Fred Money, Riversdale, Sleaford, Lincs.

Pigs.—Mr. R. W. Carson, 3 Gloucester Gate, Regent's Park, London, N.W.

Honorary Director.

39. It will be remembered that in the year 1920, Lord Daresbury (then Sir Gilbert Greenall) announced his intention of resigning the Honorary Directorate of the Royal Show at the conclusion of the Chester Meeting in 1925. At the request of the Council, Lord Daresbury reconsidered his resignation and

agreed to carry on for some years longer, but last year he definitely decided that the time had arrived when he ought to relinquish the Directorate to a younger man.

40. Several Members of Council wrote to Lord Daresbury asking him again to reconsider the announcement he had made that he would retire after the Manchester Show; but, to use Lord Daresbury's own words: "If he had had any intention of continuing in office, he would not have intimated his desire to give up the Honorary Directorship."

41. A Special Committee was therefore appointed to consider the question of a successor to Lord Daresbury in the Honorary Directorate, and the new terms of appointment. This Committee met in July and November, and, after full consideration, decided to invite Mr. U. Roland Burke to undertake the duties of Honorary Director at the conclusion of Lord Daresbury's term of service in 1930.

Mr. Burke has signified his willingness to accept the appointment, and the Council has therefore appointed him as the Honorary Director of the Royal Show, in succession to Lord Daresbury, to commence his duties in connection with the Warwick Show of 1931.

Chemical Department.

42. A further falling off in the number of samples sent by Members for analysis has to be recorded, the total for the twelve months being 170 as against 242 in 1928. There can be little doubt that this has resulted, in no small measure, from the coming into force—as from July 1, 1928—of the new Fertilisers and Feeding Stuffs Act, and the consequent provision of more security to purchasers as regards what is supplied to them.

43. On the other hand, there continues to be referred to the Society's laboratory a number of the more intricate problems, as also such matters as the analysis of soils and of waters.

44. Under fertilisers it is of interest to record the return of an old favourite of the '70's and '80's, viz., Peruvian Guano. There is reason to believe that a larger supply than for some years past of this valuable fertiliser will be available in the near future, and the quality, as shown by a recent analysis, is high, exceeding 14 per cent. of ammonia. Though, perhaps, dear as a general fertiliser, there is no question that for certain purposes and crops nothing has been found quite to take the place of Peruvian Guano.

45. Ground mineral phosphate continues to be used to a considerable extent, principally in the North of England, and experiments with it would seem to point to the marked advantage of having this very finely ground.

46. The activities of the Imperial Chemical Industries, Ltd.,

have resulted in a marked cheapening of the cost of nitrogen, and, alike as regards supply and price, farmers have little to complain of. The result of this cheapening has been a reduction in the unit price of nitrogen, and this had to be taken into account in the revision of the tables of compensation issued by the Central Association of Agricultural Valuers.

47. While the benefit of the Fertilisers and Feeding Stuffs Act has been great, there is one respect in which the setting out of definitions to which articles must conform has had the opposite effect to that intended. The material in question is barley-meal, for, whereas under the old Act this had to be "pure" in order to come generally up to description, advantage has been taken of the somewhat lax term in the new Act, "commercially pure, as grown," to introduce foreign barley of various kinds and to use them for grinding into barley-meal. It is well known that many of these grades of barley, notably those termed "Federal Barley" and "Canadian Feed Barley," may contain 15 to 20 per cent. of Oats or Wheat with weed seeds and other impurities, and it is maintained that, inasmuch as these come into the market and are sold as barley, they would come under the definition "commercially pure barley." It is very unfair to the producer of home-grown barley, which is grown clean and is screened before grinding, that he should have to compete with inferior feeding materials of this kind, and which, in some cases at least, have been found to be distinctly harmful to pigs.

Fuller reference to this question is made in the issue of "Occasional Notes" circulated with the Annual Report.

48. Reference may also be made to the occurrence of harmful ingredients in a material put on the market as "Chilian Peas," which killed a number of pigs, owing to the presence in it of glucosides which produced prussic acid on fermentation.

Botanical Department.

49. The abnormal climatic conditions throughout the season have made the work of the Botanical Department unusually interesting. They may too have been responsible for a falling off in the number of enquiries received.

50. Plant diseases again formed the largest group of enquiries. Yet few of the outbreaks were as serious as usual. They show a general tendency to have been distinctly more intense in the wetter parts of the country, and in those where the drought has been worst the losses from the attacks of parasitic fungi appear to have been much under the general average.

51. The demand for information about the formation and the early management of permanent grassland increased particularly during the latter part of the season. The enquiries

about the suitability of different varieties of crops for particular conditions formed an important group. This was especially so with regard to autumn-sown oats and barley, which suffered severely during the prolonged winter.

52. Fewer weeds than usual were sent in for identification, and the majority of these were from newly sown grassland. The number of seed samples analysed was almost negligible.

Synonyms in Agricultural Crops.

53. Lord Hastings (Chairman of the Botanical and Zoological Committee) and Sir Rowland Biffen (Botanist) have been appointed to represent the Society at an informal conference suggested by the National Institute of Agricultural Botany to discuss the problem of synonyms in agricultural crops and what steps can best be taken to deal with it.

Zoological Department.

54. Every kind of insect pest seems to have made its appearance during the past season, but the long cold spell in the spring and the summer drought so adversely affected some crops that the damage by insects was comparatively unimportant. Three pests unusually destructive were wheat bulb-fly, apple saw-fly and celery-fly. As might be expected, such dry-weather pests as turnip-fly, *Sitona* weevils and "red spider" were much complained of in the summer.

55. The experiments in the treatment of warbles were continued at the University Farm, and interesting results were obtained. It is hoped that the action recently taken by the Leathersellers' Company will give a great stimulus to the efforts to eradicate this pest.

56. Many specimens of insects have been sent for identification, including animal parasites and insects infesting houses and timber-yards.

Animal Diseases.

57. Returns of the notifiable diseases for the first ten months of the year, as compared with the corresponding period of 1928, showed a diminution in the number of outbreaks of Anthrax, Parasitic Mange, and Foot and Mouth Disease. Great Britain had been free from Foot and Mouth Disease for a month when the first outbreak of the year was confirmed in the Soke of Peterborough on January 21. During the next two months a succession of outbreaks occurred in the Counties of Northampton, Yorkshire (North Riding), Durham, Cambridge, Lancaster, Lincoln (Kesteven), and Kent. Following the outbreak in Kent on March 24 there was a free interval of ten weeks until June 5, when the disease was confirmed in the county of Southampton. A period of three months' freedom then ensued,

at the end of which the disease appeared in Scotland (Lanarkshire and Dumbartonshire). During October the disease appeared in Devon, Kent, and East Sussex, bringing the number of outbreaks for the ten months up to 32. In connection with these 2,987 animals were slaughtered as diseased or exposed to infection. The corresponding figures for the first ten months of 1928 were 120 and 10,345 respectively. No outbreak of Glanders has so far been confirmed this year. There has, however, been a considerable increase in the number of confirmed outbreaks of Swine Fever, but Sheep Scab outbreaks appear to have been rather less numerous than in the first ten months of 1928.

Sheep Scab.

58. Sheep Scab has this year received a good deal of attention not only in the Agricultural Papers but in the Daily Press and at meetings of County and Rural District Councils, the results of which must ultimately be of benefit. The Veterinary Committee of the Council can claim some share of the credit for having brought the subject of this disease into prominence, as it was at a meeting in the early part of the year that the urgency of the matter was emphasised. Following on the discussion which ensued, the Minister of Agriculture was asked to receive a joint-deputation from the Society and the National Sheep Breeders' Association. This request was acceded to by the then Minister, Mr. Walter Guinness, and the whole question was fully considered. As a result, a circular letter was, by order of the Council, addressed to :—

Clerks to County Councils,
Clerks to County Diseases of Animals Committees,
Chief Constables of County and Municipal Police,
County Branches of the National Farmers' Union,
Leading Agricultural Societies,
Secretaries of Flock Book Societies,
The Magistrates' Association,
The National Veterinary Medical Association, the Veterinary Journal and
The Agricultural and General Press,

drawing attention to the necessity for concerted action in an attempt to stamp out the disease. From the replies received, the Council are hopeful that the importance of the matter has now been realised by all concerned.

Mastitis.

59. Mastitis in dairy cattle, which seems to be becoming more and more prevalent, is the cause of most serious loss to stockowners, and there have been many enquiries as to the possibility of effective curative or preventive methods being

discovered. An investigation into this disease is being conducted by Dr. Minett at the Research Institute of the Royal Veterinary College, for which purpose the Society have made a grant out of their Research fund. Mastitis in sheep has also been receiving considerable attention at the Cambridge Institute of Animal Pathology.

Distemper.

60. The year has been made notable by the successful sequel to the research of Messrs. Laidlaw and Dunkin against Canine Distemper. The work has been carried out at the Medical Research Laboratories, Mill Hill, and these workers claim that by the method which they have adopted it is now possible to immunise dogs against the ravages of Distemper. This will be welcome news to all dog-owners.

Delay in Notification of Disease.

61. This matter continued to receive the attention of the Council, and last February a letter in the following terms was sent to the Agricultural and General Press:—

ROYAL AGRICULTURAL SOCIETY OF ENGLAND,
16 BEDFORD SQUARE,
LONDON, W.C.1.
February 16, 1929.

To the Editor
of The ——
SIR,—

For some years past every possible effort has been made by the Ministry of Agriculture, by the Royal Agricultural Society of England, and by the National Farmers' Union, to impress on stock-owners the importance of immediately reporting to the police the slightest suspicion of Foot and Mouth Disease amongst their stock. The owner is not expected to diagnose the disease, his responsibility to report commences on the least suspicion of the presence of the disease. So thoroughly has this warning been advertised that it is impossible to believe that any man can be to-day ignorant of his responsibility.

And yet every year case after case occurs of the unnecessary spread of the disease through delayed reporting, and even through deliberate concealment. The present methods of stamping out an outbreak of the disease are so efficient that there is only needed prompt notification of the initial outbreak to assure success. But if the disease once gets a start, begins to spread from farm to farm, to the railway trucks and unloading docks, and to the markets, the financial loss, the destruction of valuable animals, the loss of trade and general inconvenience become almost intolerable.

And yet when men are prosecuted by the Ministry of Agriculture for concealment and other offences under the Foot and Mouth Disease Orders and convicted, often the local Magistrates have let the defendants off with inadequate fines.

The following instances chosen from many cases of inadequate punishment following conviction for various offences speak for themselves:—

CASES

(*a*) Failing to report	10*s*. fine.
(*b*) Failing to report	£5 fine.
(*c*) Feeding unboiled food to Pigs . .	£2 (including costs).
(*d*) Moving sheep in infected area . .	10*s*. fine.
(*e*) Feeding unboiled foodstuffs to pigs .	10*s*. fine.

I hope that you will give this letter due prominence in order to call Stock-owners' attention once again to their responsibilities, and to impress on Magistrates the necessity of treating these offences as grave ones.

Yours faithfully,
(*Sgd.*) LASCELLES,
President, R.A.S.E.

Meat Wrappers in Army Camps.

62. The disposal of meat wrappers in Army Camps formed the subject of correspondence between the Society and the Ministry of Agriculture last year. The matter was taken up by the Ministry with the Army Council; and, from a letter received by the Society at the end of December, 1928, it appeared that the Army Council were taking all possible steps to ensure that the conditions imposed by the Foot and Mouth Disease (Packing Materials) Orders were adhered to.

Warble Fly Committee.

63. Sir Merrik Burrell, Chairman of the Veterinary Committee, has been appointed to represent the Society upon a Committee formed by the Leathersellers' Company to enquire into the ravages caused by the Warble Fly and as to what steps can be taken to mitigate the evil.

Quarantine Station.

64. At the date of the last Report the following stock had passed through the Quarantine Station:

152	Cattle
117	Sheep
52	Pigs
7	Goats
328	animals

and the total number for the *first year*, which ended on March 31 last, was:

347	Cattle
126	Sheep
60	Pigs
10	Goats
543	animals

They were intended for export to the following countries:

	Cattle	*Sheep*	*Pigs*	*Goats*
South Africa	123	23	10	8
South-West Africa	15	—	—	—
Northern Rhodesia	17	—	—	—
Southern Rhodesia	149	2	—	—
Trinidad	—	—	4	—
Northern Ireland	—	—	—	2
Irish Free State	43	101	46	—
	347	126	60	10

65. In the first six months of the second year, *i.e.* from April 1, 1929, the following stock has been exported through the medium of the Quarantine Station:

17*th Period, commencing April* 19	32 Cattle	Australia
18*th Period, May* 6	19 Cattle 2 Sheep	
	21	Australia
19*th Period, May* 23	33 Cattle 6 Sheep 9 Pigs	South Africa, N. and S. Rhodesia, and Cyprus.
	48	
20*th Period, June* 11	30 Sheep 4 Pigs	
	34	Australia
21*st Period, June* 26	17 Cattle 5 Sheep	Irish Free State and Northern Ireland.
	22	
22*nd Period, July* 24	11 Cattle 1 Sheep 12 Pigs	Irish Free State and South Africa.
	24	
23*rd Period, August* 20	23 Sheep 21 Pigs 1 Goat	Australia, South Africa, and N. Nigeria.
	45	

24th Period, *October* 9	49 Cattle 10 Sheep 8 Pigs	South Africa and Trinidad.
	67	

66. The 25th and 26th periods have been fixed for stock to Australia, and on both occasions it is expected that the Quarantine Station will be fully occupied.

67. It has been found both possible and convenient to enter stock for more than one Dominion or Colony in one period, and this has proved an economical arrangement where small consignments for such places as Trinidad, Palestine, Cyprus, etc., are concerned, and has enabled the Society to cope adequately with the demands for entries to the Quarantine Station for all destinations.

68. The Australian Government accepted the quarantine scheme in time for the Society to arrange for two periods to be fixed before the 31st May last, which enabled two shipments totalling 52 head of cattle and 1 sheep to be effected before the "close" period, when cattle cannot be shipped to Australia owing to the Warble Fly disease.

69. A freight scheme in connection with the exportation of livestock to Australia has been arranged between the Government of that Dominion and the Empire Marketing Board, with effect as from the 1st October last. Two steamers will connect with the first period for the export of cattle to Australia in December: both are now booked to capacity, and a further 30 head of stock is awaiting entry into the Quarantine Station.

70. With regard to South Africa, there were four free freight steamers in the first year's operation of the Quarantine Station, and only two in the succeeding six months, the last being the s.s. *Ripley Castle*, which sailed on the 24th October last, while the next will not be available before January or February next.

71. It was originally expected that there would be six or seven free freight sailings to South Africa, but this now appears to be unlikely. On two or three occasions the Union Castle Line have been asked to accept a few head of stock by the intermediate passenger vessels, and this has generally cleared any outstanding exports to that Dominion.

72. The Southern Rhodesian Government has advised that 100 head of cattle are to be purchased for shipment before the 31st March next.

73. Canada and New Zealand are now the two most important outstanding Dominions which have not taken advantage of the Quarantine Station scheme.

74. The Irish Free State Government have been asked to

accept the regulation period of 14 days' detention, instead of the 21 days, which they had originally insisted upon, but so far have not agreed to the shorter period.

75. The Quarantine Station has been finally inspected by the Architect, and certified to have been constructed in accordance with the conditions of the Contract.

76. With regard to the administration costs of the Station, the amount sanctioned by the Empire Marketing Board for this was £3,250 per annum, for five years (apart from the capital cost for the construction). After accounting for all receipts and expenditure, including salaries, fodder, etc., the actual call on the Empire Marketing Board funds for the first year was only £1,010, or a saving of £2,240 on the Society's original estimate.

77. Revised regulations, embodying alterations and amendments, as a result of the experience gained in the working of the Quarantine Station, have been approved by the Ministry of Agriculture and Fisheries, and have now been communicated to exporters.

78. Stock can now be accepted from Northern Ireland, the Channel Islands, and the Irish Free State, for export abroad, through the Quarantine Station, and a special Quarantine Regulation Order has been issued by the Ministry of Agriculture and Fisheries to cover the special transport and veterinary arrangements.

Research Committee.

79. A report on the work of the Research Committee in 1928 was included in Vol. 89 of the JOURNAL issued to Governors and Members this year. Work in progress during the past twelve months included Grassland experiments at Shoby, Leicestershire; an investigation concerning Bovine Mastitis at the Research Institute in Animal Pathology; Barley research, Drill trials, and a feeding trial with Sugar Beet Tops at the Norfolk Agricultural Station; and further work on Lucerne Inoculation by the Rothamsted Experimental Station.

80. A report on "Sugar Beet Tops as a Food for fattening Bullocks and their Manurial Value when ploughed in" is printed in the number of "Occasional Notes" which accompanies the Annual Report. Arrangements have been made by the Committee for further trials. The Barley Seeding and Drill Trials have been completed, and a report thereon is now in preparation.

81. The Lucerne Inoculation experiments have now reached a stage at which it is necessary to make provision for the preparation and sale of the cultures on a commercial basis. The Research Committee are therefore negotiating with certain companies with a view to one of them undertaking this service, and so making the cultures available on a more extensive scale.

82. A grant has been made by the Committee to assist the

Rothamsted Experimental Station in the work of examining and collating the data available concerning the plots at the Woburn Experimental Farm since 1877.

"Agricultural Research" Publication.

83. A fourth volume of this annual publication has now appeared, and copies are being sent with this report to all Governors and Members who have expressed a wish to have the volume. *Other Members who desire to have this work should make early application for it to the Secretary.* The book, which is published by John Murray, 50a Albemarle Street, London, W., is free to Governors and Members, and is obtainable by non-members at 1*s.* Copies of the earlier volumes are still available.

Medal for Research.

84. A Silver Medal and money or books to the value of £10 were again offered by the Research Committee this year for a monograph or essay giving evidence of original research on the part of the candidate on any agricultural subject, on any of the cognate agricultural sciences, or on agricultural economics. Candidates must reside in Great Britain or Ireland, and must not be more than 30 years of age. The last date for receiving monographs or essays was October 31.

No award was made in 1928 as, in the opinion of the referees, not one of the Essays submitted was of sufficient merit.

Grant to Cambridge University.

85. The Society has agreed to make a Grant of £1,000 to the University of Cambridge, in connection with Agriculture and allied Sciences. The Rockefeller Trust has offered to make a contribution to that University of £700,000, subject to the University raising £479,000. Of this latter sum £250,000 had been raised in November 1928, leaving only a further £229,000 to be obtained by the University Authorities, in order to qualify for the Grant. As a large portion of the Grant is to be utilised for the benefit of Agriculture, the Council felt that the Research Committee of the Society ought to be associated with the work and consequently agreed to sanction the Donation of £1,000.

86. It is understood that the University Authorities have made considerable progress during the year with the collection of the further sum required, and they hope shortly to raise the full amount.

National Conference on Agriculture.

87. At the Council Meeting on February 6, Sir Merrik Burrell, Sir Archibald Weigall, Mr. Charles Adeane, Mr. C. Dampier-Whetham, and the Rev. C. H. Brocklebank were appointed

as the representatives of the Society to attend the National Conference called by the Central Chamber of Agriculture, to discuss the Economics of Agricultural Re-construction.

88. The discussion at the Conference in question developed upon political lines, and it was found impossible by the delegates of this Society to take part in the same, owing to the prohibition contained in the Royal Charter, which precludes any discussion by the Society, of matters having a political tendency or of matters pending or likely to be brought before either House of Parliament.

Netherland Economic-Historical Exhibition.

89. The Society loaned to the above Exhibition at Amsterdam the following pictures :—

Portrait of JETHRO TULL.
„ ROBERT BAKEWELL.
„ ARTHUR YOUNG, and
THE WOBURN SHEEP SHEARING.

The Committee of the Exhibition undertook to pay all expenses of packing, transport, and insurance against all risks. The pictures were exhibited from July 1 to September 15, in the British section, which the Council is informed was a great success. The pictures have since been returned safely to the custody of the Society.

Gift to Society.

90. Recently the Society received from the residuary legatees under the will of Miss Emma Handley a print of the portrait of the late Henry Handley, who was closely associated with the Society at its foundation and filled the presidential chair in 1842.

Empire Farmers' New Zealand Tour.

91. In pursuance of its policy of encouraging and fostering intercourse between the people of the different parts of the Empire, the British National Union is organising a tour of British, Canadian and South African Farmers to New Zealand in January 1930. Lord Bledisloe, who has consented to act as Leader of the party, made a personal appeal to the Council last July in connection with the tour, and expressed the hope that there might be a good representation of British Agriculture encouraged by the Royal Agricultural Society.

Representation on other Bodies.

92. Mr. Thomas Neame has been appointed to succeed Mr. Ernest Mathews, resigned, as one of the Society's representatives on the National Agricultural Examination Board and also as a Member of the newly-constituted National Dairy Examination Board. Mr. Dampier-Whetham has been appointed as the dele-

gate of the Society at a further Conference, convened by the Electricity Commission, on the question of Electricity Supply in Rural Areas.

"Queen Victoria Gifts."

93. For the ensuing year the Trustees of the Queen Victoria Gifts Fund decided to make a grant of £180 to be devoted to gifts to candidates as below, the distribution in each class to be left until after the election to pensions by the Royal Agricultural Benevolent Institution :—

Male Candidate.—Six gifts of £10 each.
Married Couples.—Three gifts of £20 each.
Female Candidates.—Six gifts of £10 each.

Including this year's grant a sum of £3,500 has been paid over to the Royal Agricultural Benevolent Institution since 1906.

Medals for Cattle Pathology.

94. As the result of the examination held at the Royal Veterinary College this year for the Society's Prizes for Cattle Pathology, the Silver Medal was gained by Mr. E. O. Longley, of Norena, Riddlesdown Avenue, Purley, Surrey. The Bronze Medal on this occasion was not awarded.

National Diploma in Agriculture.

95. Fifty candidates were successful in gaining the National Diploma in Agriculture at the Thirtieth Annual Examination held by the National Agricultural Examination Board at the University of Leeds in April last. See list on pages 335–7.

National Diploma in Dairying.

96. The Thirty-fourth Annual Examination for the National Diploma in Dairying—and the first to be held under the auspices of the newly-constituted National Dairy Examination Board—took place in September, at the University and British Dairy Institute, Reading, for English students; and at the Dairy School for Scotland, Kilmarnock, for Scottish students. Forty-six candidates were examined at the English Centre, of whom thirty were awarded the Diploma ; and fifty-one presented themselves at the Scottish Centre, of whom twenty-three gained the Diploma. No candidate at either Centre reached Honours standard. The names of the Diploma winners will be found on pages 339 and 340.

By Order of the Council,
T. B. Turner,
Secretary.

16 Bedford Square,
London, W.C.1.

NATIONAL AGRICULTURAL EXAMINATION BOARD.

I.—REPORT ON THE RESULTS OF THE THIRTIETH EXAMINATION FOR THE NATIONAL DIPLOMA IN AGRICULTURE.

HELD AT LEEDS, APRIL 11 TO 18, 1929.

1. The Thirtieth Examination for the NATIONAL DIPLOMA IN AGRICULTURE was, by the courtesy of the authorities, held at the University of Leeds, from the 11th to the 18th April last.

2. The subjects of Examination were Practical Agriculture (two papers), Farm Machinery and Implements, Land Surveying and Farm Buildings, Agricultural Chemistry, Agricultural Botany, Agricultural Book-keeping, Agricultural Zoology, and Veterinary Science and Hygiene. The whole nine papers could be taken at one time, or a group of any three, four or five in one year and the remaining group at one examination within the next two years. Candidates taking the whole Examination in one year who failed in not more than three subjects, and candidates taking a second group who failed in not more than two subjects, were allowed to appear again for those subjects only next year. Candidates failing in one or two subjects of a first group of not less than four, or in a single subject of a group of three, were permitted to take those subjects again in conjunction with the second group.

All candidates, before sitting for the Practical Agriculture and Farm Machinery and Implements papers, had to produce evidence of possessing a practical knowledge of Agriculture obtained by residence on a farm for a period or periods (not more than two) covering a complete year of farming operations.

3. The Examiners in the different subjects were:

PRACTICAL AGRICULTURE. (First Paper, 400 Marks. Second Paper, 400 Marks.) Prof. J. A. S. Watson, M.C., B.Sc., M.S.A. (Iowa), William Bruce, M.A., B.Sc., and R. H. Evans, B.Sc.; FARM MACHINERY AND IMPLEMENTS. (300 Marks.) Prof. R. Stanfield, M.Inst.C.E.; LAND SURVEYING AND FARM BUILDINGS. (100 Marks.) Robert Cobb, F.S.I.; AGRICULTURAL CHEMISTRY. (200 Marks.) J. F. Tocher, D.Sc., F.I.C., and John Ritchie, M.A., B.Sc., F.I.C.; AGRICULTURAL BOTANY. (200 Marks.) Prof. John Percival, M.A., Sc.D.; AGRICULTURAL BOOK-KEEPING. (200 Marks.) Arthur G. Ruston, B.A., D.Sc.; AGRICULTURAL ZOOLOGY. (100 Marks.) R. Stewart MacDougall, M.A., D.Sc.; and VETERINARY SCIENCE AND HYGIENE. (200 Marks.) A. C. Duncan, F.R.C.V.S.

4. One hundred and forty-eight candidates presented themselves, as compared with 155 last year. Ten candidates took the whole Examination, 68 who had previously passed in certain subjects appeared for the remaining portion, and the other 70 candidates came up for a first group of subjects.

5. Fifty candidates were successful in obtaining the Diploma, the first two reaching the Honours standard. The names of the ordinary Diploma-winners are in alphabetical order.

DIPLOMA WITH HONOURS.

1st, Eric Leonard Jones, University College of Wales, Aberystwyth.
2nd, Miss Anne Catherine Anderson, Edinburgh and East of Scotland College of Agriculture.

DIPLOMA.

William John Badcock, University of Reading.
Alan Butler Bates, University of Leeds.
Roger John Benstead, East Anglian Institute of Agriculture, Chelmsford.
John Blackwall, Midland Agricultural and Dairy College, Sutton Bonington, Loughborough.
James Affleck Brown, Jun., West of Scotland Agricultural College, Glasgow.
Allan James Burns, Glasgow University and West of Scotland Agricultural College.
Ernest Howard Coak, Seale Hayne Agricultural College, Newton Abbot, Devon.
Joseph Beeley Collingham, Midland Agricultural and Dairy College.
James Tertius Craig, West of Scotland Agricultural College.
Donald Seaton Cummins, Seale Hayne Agricultural College.
Cyril Daniel, Seale Hayne Agricultural College.
David Thomas Davies, University College of Wales, Aberystwyth.
Evan Davies, University College of Wales, Aberystwyth.
Walter Drew, Seale Hayne Agricultural College.
George Dunlop, Glasgow University and West of Scotland Agricultural College.
Joseph Edwards, Glasgow University and West of Scotland Agricultural College.
Josiah Gunston, East Anglian Institute of Agriculture.
William Frederick Gwilliam, Harper Adams Agricultural College, Newport, Salop.
Benjamin Henry Harvey, East Anglian Institute of Agriculture.
William Edward Heath, Midland Agricultural and Dairy College.
Henry Hirst, University of Leeds.
Philip Robert Henwood John, South Eastern Agricultural College, Wye, Kent.
Howell William Jones, University College of North Wales, Bangor.
Timothy Emlyn Jones, University College of Wales, Aberystwyth.
Hugh Deans Leighton, West of Scotland Agricultural College.
Rowland Line, South Eastern Agricultural College, Wye.
Tom Merchant, Seale Hayne Agricultural College.
Niel Rankin Morison, Glasgow University and West of Scotland Agricultural College.
John Morton, West of Scotland Agricultural College.
Walter Stanley Rayfield, University of Leeds.
John Owen Roberts, University College of North Wales, Bangor.
Harold Benjamin Salter, Seale Hayne Agricultural College.

Alfred James Edward Sanders, Seale Hayne Agricultural College.
Andrew Smith, West of Scotland Agricultural College.
Philip Henry Smith, University of Leeds.
Miss Louisa Mary Stanger, Midland Agricultural and Dairy College.
Alexander Buchanan Stark, Armstrong College, Newcastle-on-Tyne.
Frank Ward Steele, University College of Wales, Aberystwyth.
Leslie Roger Swindells, Harper Adams Agricultural College.
Sydney Pearce Thomas, Seale Hayne Agricultural College.
John Turner, University of Leeds.
Kenneth Ross Whyte, West of Scotland Agricultural College.
Robert Andrew Wight, West of Scotland Agricultural College.
William Watt Wight, Kelham, Newark-on-Trent.
Reginald Thomas Wiglesworth, Harper Adams Agricultural College.
Ellis Evans Williams, University College of North Wales, Bangor.
Thomas Winter, Armstrong College, Newcastle-on-Tyne.
Dudley Calvert Withers, University of Leeds.

6. Two of the candidates appearing for the whole Examination failed in not more than three subjects, and fifteen of those taking a second group of subjects failed in not more than two. These will be permitted next year to take again the subjects in which they failed.

7. Of the 70 candidates appearing for a first group of subjects, the following 43 succeeded in passing, and will therefore be permitted, subject to the Regulations, to take the second group in 1930 or 1931:

James Richard Barrowman, Glasgow University and West of Scotland Agricultural College.
Grenville R. H. Bishop, Midland Agricultural and Dairy College.
Joseph Cobbald Blossom, Glasgow University and West of Scotland Agricultural College.
Douglas Campbell, West of Scotland Agricultural College.
Lewis Charles Couch, Seale Hayne Agricultural College.
David Evans Davies, University College of North Wales, Bangor.
Derek Leslie Edmunds, University of Reading.
John Clifford Fletcher, South Eastern Agricultural College.
David Gillett, University of Reading.
William S. Greenlaw, Seale Hayne Agricultural College.
Oliver William Groves, South Eastern Agricultural College.
Thomas George Hendy, Seale Hayne Agricultural College.
John Wilfred Hewison, University of Reading.
Edwin Humphrey Hinton, East Anglian Institute of Agriculture.
Henry Thomas Horsman, South Eastern Agricultural College.
George Harold Houghton, Midland Agricultural and Dairy College.
Leslie Edward Hughes, Harper Adams Agricultural College.
Colin Jones, Seale Hayne Agricultural College.
David Maldwyn Jones, University College of Wales, Aberystwyth.
James B. P. Jones, University College of Wales, Aberystwyth.
John Lawson, Midland Agricultural and Dairy College.
George Edward Limb, University of Leeds.
Neil Frank McCann, Harper Adams Agricultural College.
Hugh McFadzean, West of Scotland Agricultural College.
Duncan McD. MacLiver, West of Scotland Agricultural College.

William Lazonby Messenger, Armstrong College, Newcastle-on-Tyne.
Thomas Ernest Miller, University of Leeds.
John Baillie Paterson, West of Scotland Agricultural College.
Cecil John Pope, Midland Agricultural and Dairy College.
Alexander Whyte Renfrew, West of Scotland Agricultural College.
Cynfab Roberts, University College of North Wales, Bangor.
Edwin Winston Stanley Rowe, Seale Hayne Agricultural College.
Michael Owen Rowlands, University College of North Wales, Bangor.
Douglas Fraser Ruston, University of Leeds.
Reginald Scott, Midland Agricultural and Dairy College.
Basil Wallace Shearer, West of Scotland Agricultural College.
Harry William Simmons, East Anglian Institute of Agriculture, Chelmsford.
James Simpson, West of Scotland Agricultural College.
Clifford George Smith, University of Reading.
Thomas Fraser Stoddart, West of Scotland Agricultural College.
Wilfred Arthur Taylor, University of Leeds.
Thomas Godfrey Walton, Armstrong College.
Ebenezer Dewi Williams, University College of Wales, Aberystwyth.

8. Twenty-two of the unsuccessful candidates sitting for a first group failed in one or two subjects, which they will be allowed to take again in conjunction with the second group in 1930 or 1931.

9. The thanks of the Board are again due to the authorities of the University of Leeds, for their liberality and courtesy in placing the Great Hall and other rooms of the University at the Board's disposal for the Examination; and to the Examiners, for the care and attention they bestowed upon the written answers to the papers set, and upon the *vivâ-voce* examination.

C. H. Brocklebank,
Chairman.

16 Bedford Square, London, W.C.1.
May, 1929.

II.—REPORT ON THE RESULTS OF THE THIRTY-FOURTH EXAMINATION FOR THE NATIONAL DIPLOMA IN DAIRYING, 1929.

1. As the result of a conference between representatives of the National Agricultural Examination Board and of the British Dairy Farmers' Association, it was decided at the end of 1928 to amalgamate the N.D.D. and the B.D.F.A. Dairy Diploma Examinations. The joint Examination is now conducted by a body known as the "National Dairy Examination Board," on which the Royal Agricultural Society of England, the Highland

and Agricultural Society of Scotland, and the British Dairy Farmers' Association have equal representation. The Diploma continues to be the " National Diploma in Dairying."

2. The first Examination under the auspices of the newly-constituted Board—and the Thirty-fourth Annual Examination for the National Diploma in Dairying—was, by the courtesy of the Authorities, held during September at The University and British Dairy Institute, Reading, for English students, and at the Dairy School for Scotland, Kilmarnock, for Scottish students.

3. No alteration was made in the Syllabus and Regulations which came into operation in 1928. As a preliminary to the acceptance of an application for permission to enter for the Examination, a candidate was required to produce :—(1) A certificate testifying that he or she had attended a Diploma Course in the subjects of the Examination covering *two academic years* at an approved Dairy Training Institution ; (2) Evidence that he or she had spent at least six months on an approved Dairy Farm and taken part in the work.

A candidate who had already taken a Degree in Agriculture of a British University or a Diploma in Agriculture recognised by the Board, was allowed to enter for the Examination after one year's training at a recognised institution, providing that such course included at least six months' training in practical dairy work, and that he or she had worked for at least six months on an approved Dairy Farm.

4. The written Examination included papers on Dairy Farming, Dairy Hygiene, Principles of Dairying, Dairy Factory Management and Dairy Engineering, Chemistry and Physics, Dairy Bacteriology, and Dairy Bookkeeping. The Practical Examination comprised Hard-pressed, Blue-veined, and Soft Cheese-making, and Butter-making.

5. At both Centres the same papers of Questions were answered by the candidates from September 5 to 7. The Practical Examination as well as the *vivâ voce* was conducted at the English Centre from September 9 to 12, and at the Scottish Centre from September 16 to 21.

6. Of the 46 candidates who presented themselves at the English Centre nine had passed in Practical Work last year, and they were not re-examined in this portion. Thirty candidates were successful in passing, but none reached the Honours standard. The names of the Diploma-winners are in alphabetical order :—

English Centre.

Diploma.

Lily Cecilia Ball, Lancashire County Council Dairy School, Hutton, Preston.

Violet Frances Bosanquet, Studley College, Warwickshire.

Violet Pearson Bruff, Midland Agricultural and Dairy College, Sutton Bonington, Loughborough.

George Warwick Channon, The University and British Dairy Institute, Reading.

Frances Chapman, Lancashire County Council Dairy School, Hutton.

Duncan Cyril Clarke, Midland Agricultural and Dairy College, Sutton Bonington.

Bertha Bronwen Evans, University College of Wales, Aberystwyth.

Cecil John Everett, East Anglian Institute of Agriculture, Chelmsford.

Olive Sylvia Fenton, Midland Agricultural and Dairy College, Sutton Bonington.

Josiah Gunston, East Anglian Institute of Agriculture, Chelmsford.

Barbara Leeds Harrison, The University and British Dairy Institute, Reading.

Gweneth Cicely Hearn, The University and British Dairy Institute, Reading.

Audrey Maud Hiehle, East Anglian Institute of Agriculture, Chelmsford.

Edward Richard Hodges, The University and British Dairy Institute, Reading.

Hetty Gwendolen Jones, University College of Wales, Aberystwyth.

Marian Eluned Jones, University College of Wales, Aberystwyth.

Emmeline Lacon, Midland Agricultural and Dairy College, Sutton Bonington.

Charles Ernest Lesser, The University and British Dairy Institute, Reading.

Phyllis Ethel Wheeler Lyndridge, East Anglian Institute of Agriculture, Chelmsford.

Margaret Mitchell, The University and British Dairy Institute, Reading.

Theodora Morris, Studley College, Warwickshire.

Mary Sybil Orton, Midland Agricultural and Dairy College, Sutton Bonington.

Ita Irene Owen, University College of Wales, Aberystwyth.

Jennie Philipson, Lancashire County Council Dairy School, Hutton.

Winifred Joan Sanderson, The University and British Dairy Institute, Reading.

Annie Alice Shearman, Midland Agricultural and Dairy College, Sutton Bonington.

Louisa Mary Stanger, Midland Agricultural and Dairy College, Sutton Bonington.

Charles Fox Stenson, Midland Agricultural and Dairy College, Sutton Bonington.

Nancy Taylor, Lancashire County Council Dairy School, Hutton.

Elizabeth Mary Wheeler, The University and British Dairy Institute, Reading.

7. Fifty-one candidates presented themselves at the Scottish Centre, of whom eleven were re-examined in Paper Work and

vivâ voce only, and two in the single subject of Dairy Bookkeeping. Here the twenty-three whose names are given below succeeded in passing the examination, but no candidate attained to the Honours standard:

SCOTTISH CENTRE.

Diploma.

MARGARET DIANA BALDWIN, 50 Birstwith Road, Harrogate.
ELIZABETH MAISIE CHISHOLM, Mayfield, Ladysbridge, Banff.
CYRIL DANIEL, Trewoon, St. Austell, Cornwall.
BATHIA MARY DAVIDSON, Ladysford, Fraserburgh.
ELIZABETH SWANSON DAVIDSON, Buckies, Thurso.
SHASHI KANTA K. DESAI, Palace Dairy Farm, Baroda, India.
MARGARET DOULL, Old Bank House, Lybster, Caithness.
JOSEPH EDWARDS, Belvideer, Motherwell.
JANEY EWING GENTLE, 27 Trefoil Avenue, Glasgow, S.1.
JOHNSTON BOYD HENDERSON, Great Shoesmiths Farm, Wadhurst, Sussex.
LILY TURNER HEPBURN, The Kennels, Glenrinnes, By Dufftown.
NORMAN LEIGH, Harrismith, Orange Free State, South Africa.
THOMAS HETHERINGTON LUNSON, 24 Musgrave Street, Penrith, Cumberland.
ANNIE MCARTHUR, Bay McNeill, Achosnich, Acharacle, Argyll.
MARGARET MACBEAN, Killiehuntly, Kingussie.
JOHN FREDERICK OXENHAM, 14 Coinagehall Street, Helston, Cornwall.
PUSHPANATHA RAIJAREHEAM PILLAI, Nedungadu Port, Tanjore Dt., S. India.
MOLLIE NEWLANDS PRINGLE, 1 Griffiths Street, Falkirk.
WILLIAM T. ROWE, Harper Adams Agricultural College, Newport, Salop.
ANAND LAL SAH, Naini Tal, U.P., India.
SODHI GAMBHIR SINGH, Village Ramgarh Daun, District Ambala, Punjab, India.
MARGARET ELIZABETH STEPHEN, Conglass, Inverurie.
ILANORA MARGHADALE UNKLES, Portaskaig, Isle of Islay.

All the candidates at the Scottish Centre had been students at the Kilmarnock Dairy School.

8. The Examiners at both Centres were: Alex. F. Smith, N.D.A., N.D.D., C.D.D. (*Dairy Farming, Dairy Hygiene, and Practical Butter-making*); William Lawson, M.B.E., N.D.A. (Hons.), C.D.A. (Glas.), N.D.D. (*Principles of Dairying, Dairy Factory Management and Dairy Engineering and Practical Cheese-making*); J. F. Tocher, D.Sc., F.I.C. (*Chemistry and Physics*); A. T. R. Mattick, B.Sc. (*Dairy Bacteriology*); James Wyllie, B.Sc., N.D.A. (Hons.), N.D.D. (*Dairy Bookkeeping*).

WILLIAM BURKITT, M.Sc., N.D.D., *Chairman.*
T. B. TURNER, *Secretary.*

16 Bedford Square, London, W.C.1.
September, 1929.

ANNUAL REPORT FOR 1929 OF THE PRINCIPAL OF THE ROYAL VETERINARY COLLEGE.

WITH the exception of Swine Fever the year 1929 yields nothing very startling to report concerning the position which Great Britain occupies in regard to the scheduled diseases of farm stock. Glanders and Rabies can be said to have been definitely eradicated, and Parasitic Mange of the Horse is now so well in hand that it too will shortly follow suit.

The incidence of Anthrax is practically stationary, and Tuberculosis is receiving increased attention; as is also Sheep Scab, this being due in no small measure to the prominence into which it was placed by the action of the Council of the Royal Agricultural Society, who sent a deputation to the Ministry of Agriculture on the subject. The consequent campaign which was launched in order to tighten up the regulations and assist the Government in its efforts to eradicate Scab from the flocks of sheep in this country, cannot but leave its mark for good, and one hopes that Great Britain will soon have her flocks as free from Scab as is Australia.

Great losses are incurred from the ravages of Contagious Abortion, with its accompanying scourge, Sterility, and it is time that stronger legal measures were taken against this disease. Mastitis of Dairy Cattle is in the hands of research workers, and the hope is expressed that this source of serious loss to the dairy farmer may be eventually brought under the control of preventive measures.

Johne's disease is spreading unquestionably. A diagnostic vaccine, by which the affected animals can be discovered, is on its trial, and it is hoped that in the near future it may be possible for the owner of an infected herd to find out his exact position, and be enabled to clear his herd of this troublesome disease, for which there is no known cure.

GLANDERS.

No outbreak of Glanders has occurred during the past twelve months, and as the years 1926 and 1928 had but one outbreak each, with only one confirmed animal in each case, and as 1927 was free, we may now safely surmise that Great Britain has seen the last of this disease.

PARASITIC MANGE IN HORSES.

In 1929 there were only 204 confirmed outbreaks of Parasitic Mange as against 280 in 1928, whilst ten years ago the confirmed outbreaks numbered over 5,000, with nearly 10,000 animals attacked.

ANTHRAX.

Anthrax maintains an approximate equality with other years. Some 439 outbreaks, with 529 animals attacked, were confirmed in 1929, as opposed to 536 and 618 in 1928 respectively.

The following table illustrates the position fairly clearly during the past few years:

Year	Outbreaks	No. of Animals attacked
1926	703	845
1927	425	497
1928	536	618
1929	439	529

FOOT AND MOUTH DISEASE.

The year 1929 has been a fortunate one in so far as Foot and Mouth Disease is concerned. Although several outbreaks have occurred, they were seen and diagnosed early; and in consequence prompt measures were possible, and the disease was checked at the onset. The monthly statistics of outbreaks in other countries, as shown in the accompanying table, are a striking testimony to the policy advocated and adopted by the Ministry of Agriculture:

Month	Great Britain	France	Germany	Holland	Belgium
January	8	877	549	300	23
February	9	1,143	319	203	59
March	3	946	275	152	48
April	—	785	212	102	94
May	—	867	126	94	87
June	3	885	183	25	40
July	—	1,607	239	15	14
August	—	2,278	197	18	10
September	4	3,659	406	22	12
October	5	5,141	772	8	22
November	4	2,394	561	6	36
December	2	1,565	913	9	16

TUBERCULOSIS.

Although the Tuberculosis Order of 1925 might have been more efficiently applied in certain districts, it is doing appreciable good, as is shown by the fact that during the year some 15,550 tuberculous cattle have been destroyed under the Order, and it is only logical to surmise that a fair proportion of these would otherwise not have been reported, and would still have been disseminating tuberculous germs.

Distinct progress has been made in several counties, particularly Yorkshire, Gloucestershire, Cumberland, Durham, and Surrey, where routine Veterinary examination of dairy cows is being made, and these are resulting in an elimination of a number of animals at a much earlier stage than they would otherwise have been reported, had the matter been left to the owner alone.

These regular inspections are bound to awaken the interest of agriculturists and dairymen to the importance of this most vital point of Public Health, and it would appear advisable for the above method to be adopted generally.

SHEEP SCAB.

Sheep Scab had increased to an extent which attracted the attention of agriculturists generally throughout the country, and the Council of the Royal Agricultural Society decided to ask the Minister of Agriculture to receive a deputation to discuss the question. This request was granted and the R.A.S.E. initiated an active press propaganda, and called the attention of the County Council and other authorities to the subject. The result has been a general tightening up of the legal and other measures taken to combat this disease. This has been especially marked in respect to the supervision of dipping and the greater care taken to round up the stragglers of a flock so that none are omitted.

The following table shows approximately the numbers of officially confirmed outbreaks :

Year	Outbreaks
1925	670
1926	717
1927	723
1928	744
1929	665

There is no doubt that the action taken by the Council of the Royal Agricultural Society was a great stimulus to the more careful application of the legal methods which can, and should, be enforced.

SWINE FEVER.

The position of Swine Fever is causing grave anxiety, as the disease is undoubtedly on the increase. The pig-owner is alarmed at the present spread of the disease ; and there is an obvious necessity for investigation and research.

The following table of statistics speaks for itself:

Year	Outbreaks
1925	1,643
1926	1,200
1927	1,794
1928	1,472
1929	2,981

FREDERICK T. G. HOBDAY.

Royal Veterinary College,
London, N.W.1.

ANNUAL REPORT FOR 1929 OF THE CONSULTING CHEMIST.

THE number of samples sent by members of the Society for analysis shows a decline of about 70 on those of 1928. Nevertheless, it must not be supposed that this indicates necessarily a loss of interest in the work of the Chemical Department, for, during the year, matters of much concern have been brought forward. Among these is that of "Barley meal," to which special reference has been made in a further issue of the "Occasional Notes" issued by the Council.

The determining feature in the reduction of samples analysed is to be found, I believe, in the introduction of the Fertilisers and Feeding Stuffs Act, 1926, which came into force on July 1, 1928. It has undoubtedly been a great improvement on the former Act of 1906, and has afforded greater protection to the purchaser and has been fairer also, in its working, to the trader. At the same time, it has had the effect of reducing greatly the independent action of individuals, and has left the discharge of the Act in large measure to County Councils and Local Authorities. These, it may be said, have in many cases shown considerable activity, and it is undeniable that the general result has been to give the purchaser greater security, but at the same time has necessarily caused the number of samples sent by individuals on their own account to be much less.

Though much has to be said, and rightly so, in favour of the new Act, it was only to be expected that experience of its working would bring out some defects and indicate directions in which improvement might be made. The instance of Barley meal and the unsatisfactoriness of the definition attached to it is a case in point. It is well, however, that provision has been made in the Act for such revision of regulations and definitions as may prove to be desirable. For this purpose a permanent Advisory Committee to the Ministry of Agriculture is appointed and will meet from time to time to advise the Ministry as to any changes which are desirable.

Another matter of special interest has arisen from the importation into this country of a feeding material known as "Chilian peas." These, it has been ascertained, are not peas but a species of Vetch (*vicia sativa*). They were landed at Liverpool, but whether coming from Chili in South America or from Chihli, a northern province of China, has not been definitely ascertained. The important feature about them is that, when investigating a case where a noted pig-breeder had used them, ten of the pigs died and many others were ill, but recovered on the "peas" being left off. On examination of the "peas" I found them to be cyanogenetic in nature, *i.e.*, containing glucosides which, by the action of enzymes, gave rise to the formation of prussic acid (HCN). To this the death of the pigs was, no doubt, due, and it should be stated that the owner was fully compensated for his losses. Feeders of stock cannot be too careful in their purchase of peas and similar materials of foreign nature, inasmuch as many of them, like the Indian lathyrus, the Java bean, and now these "Chilian peas," are known to possess poisonous properties, under certain conditions at least.

Of the general run of fertilisers and feeding stuffs in common use it must be said that they have, on the whole, been found very satisfactory, and but few cases of adulteration or misrepresentation have been met with. This is especially true of fertilisers, which have, hardly without exception, proved satisfactory.

Mention is made later of two new materials, "Sulfurophosphate" and "Nitrophoska," and of the revival of that old favourite of the farmer, "Peruvian Guano." The variable quality of Lime is referred to, and occasional inferiority of Shoddy.

In feeding stuffs it is satisfactory to record that compound cakes and meals have been found, almost without exception, to have come up to guarantee and to have been made of suitable ingredients. Mention is made of a particular kind of Linseed cake—imported from India and known as "screw-pressed"—but which has been found frequently to contain sand in excess. It is with such materials as cereal meals, wheat offals, etc., that the most difficulty has been found in securing the genuine character of these—barley meal is a case in point.

Reference is further made to cases of water attacking metallic pipes, boilers, etc., to methods of softening water, to soils deficient in lime and to the amount of Arsenic found in Hops.

BARLEY MEAL.

Before I follow my usual plan of setting out the details of cases of interest which have occurred during the year, and as gathered from the examination of samples sent me by members, I would wish to deal separately with the matter of Barley meal, a subject of such importance that it was decided to make special reference to it in "Occasional Notes."

It is common knowledge that since the new Fertilisers and Feeding Stuffs Act, 1926, came into force on July 1, 1928, the quality of Barley meal, as purchasable, has greatly deteriorated. The reason is, no doubt, to be found in the fact that, whereas the old Act of 1906 required Barley meal to be "pure," the new Act, by the introduction of the definition "the product of grinding commercially pure barley, as grown," has allowed the use of foreign barleys containing much impurity, and which were formerly excluded from being ground into Barley meal. "Commercially pure" is not a term recognised by the Trade, and "as grown" allows of the barley being grown *anywhere* and *anyhow*. Hence the definition is a very vague one and does not carry out the intentions of the framers of the Act, who had in mind barley as grown *in this country*. Such barley has usually only about 1 per cent. of matter other than barley, whereas the foreign barleys used for grinding into meal may contain 18 to 20 per cent. or more of grain other than barley, along with weed seeds and other impurities. This is clearly unfair to the home grower. On account of the loose description adopted, it has not been possible to secure any conviction under the Act except in one case where the vendor went a step further and described the product of what is known in the Trade as "Canadian Feed Barley," as "pure" Barley meal. On its being found to contain 15 per cent. of oats as well as other impurities, a conviction followed.

Not only has "Canadian feed barley" been shown in many cases to contain considerable amounts of oats, wheat, and weed seeds, but the same applies to some grades of barley coming from the United States of America, and known generally in this country as "Federal Barley." Numerous cases were reported as to this being believed to have caused death and illness among pigs, and a special investigation, conducted by the Ministry of Agriculture, resulted in showing that in the case of one grade, "Federal Barley, No. 2," imported in 1928–9, the barley was infected by a fungus[1] which was capable of poisoning pigs. Several cases of illness or death of pigs were referred to me by members of the Society, and in each of these I found that either the "Federal Barley" or "Canadian Feed Barley" had been used for grinding into meal. It is clear that revision of the existing definition of Barley meal is called for, and, meantime, purchasers of Barley meal will be well-advised to insist upon "pure" Barley meal being guaranteed to them.

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[1] *Gibberella saubinetii.*

CHILIAN PEAS.

Another matter that calls for special mention is the occasional importation into this country of what is offered under the name "Chilian peas." I have frequently had to remark on the risk run in purchasing—probably because of their seeming cheapness—beans, peas and other grain of foreign origin, of which the properties are not known or have not been satisfactorily ascertained. Under this head come Java beans, which, in many cases, have been found to be poisonous because of their containing glucosides capable, on fermentation, of forming prussic acid. Of this nature, too, were the Chilian peas above referred to. They were not peas, but a species of vetch (tares). In one case a large feeder of pigs had purchased these "peas" on an assurance from the vendor that they were good feeding, and he lost ten pigs, while many others were taken ill. On a sample being submitted to me, I found them to be strongly cyanogenetic (prussic-acid-producing), and I have no doubt that this was the cause of the trouble in question. The purchaser, it is only fair to say, was amply compensated for his losses.

From time to time since, I have found these "Chilian peas" to crop up again, so that a warning about them, and against unknown foreign seeds in general, is not out of place. I have, so far, been unable to ascertain definitely whether these "peas" come from Chili (S. America) or from Chihli, one of the provinces of Northern China.

This enquiry, because of a statement made on high authority, that Vetches generally have this tendency to being cyanogenetic, and may be risky feeding to stock, has led me into a further investigation as to the nature of Vetches as commonly grown in this country and sold as seed, either for sowing or for feeding. This is still proceeding, but I may say that, so far, I have not found evidence of the statement being fully justified.

FEEDING STUFFS.

To judge from the samples sent me, there has been comparatively little in the way of either inferiority or adulteration, except in the case of meals such as Barley meal (already alluded to) and different offals of Wheat. A class of Linseed cake of native (Indian) manufacture known as "screw-pressed Linseed cake" is referred to, inasmuch as this has been found frequently to contain sand in excessive amount. Compound feeding cakes have been almost uniformly good and up to guarantee, besides being very generally free from useless or objectionable components. An instance is given which emphasises what I have not unfrequently referred to, viz., that the mere figures of an analysis do not necessarily indicate, in themselves, the superiority of one compound feeding cake or meal over another, but that the materials made use of in the compounding must also be taken into account.

FERTILISERS.

If the state of things generally be satisfactory as regards feeding stuffs, this remark applies with even more significance to fertilisers, for the cases in which I have had occasion to make adverse comment or even to regard price as excessive have been singularly few. The purchaser of artificials has benefited much by the greatly extended and cheaper production of nitrogenous fertilisers, consequent, largely, on the synthetic production of these by Imperial Chemical Industries, Limited, and similar concerns on the Continent. The result has been a distinct cheapening which has lowered the unit cost of Nitrogen. I have, in consequence, had to again revise the Tables of Compensation for Unexhausted Manure Value which are issued by the Central Association of Agricultural Valuers, the unit value of nitrogen per ton being now given at 11*s.* in place of the formerly existing one of 14*s.*

Superphosphate does not appear to have extended in use, and of Basic Slag it must be said that the changes in method of steel manufacture and the varying materials used have been productive of such different kinds of slag, varying alike in regard to phosphate contents, lime, and solubility, that one does not quite know what direction the future supply will take, and still less what the relative qualifications of the different kinds for fertilising value will be. This will necessitate considerable experimental research and practical demonstration.

On the other hand, ground phosphate, such as North African phosphate, has, largely by reason of its cheapness and its fine grinding, found increasing favour, notably in the north of England. Experiments conducted with it at the Cockle Park Farm of the Northumberland County Council have further shown its value, and, still more, the advantage of having it very finely ground.

New phosphate-containing fertilisers are referred to, among which may be mentioned "Sulfurophosphate"—a product of treating at a high temperature phosphate rock with sulphur—and "Nitrophoska," a very concentrated nitro-potash-phosphate (if such a term can be used) designed mainly for export, where carriage, &c., would be heavy.

And yet another combination of nitrogen, potash and phosphate—though by no means a new one—claims recognition. This is our old friend Peruvian Guano, one which, in consequence of improved arrangements with the Peruvian Government, has once more become available, and for the regular supply of which provision has been made. Peruvian Guano has the distinctive advantage that it is a natural combination of organic and mineral fertilisers, and that these occur not in one form only, but in varied forms. Each of these exercises its own particular influence, and, not being of evanescent nature only, like soluble nitrogenous salts, for example, but, being at the same time reasonably available, the effect of the application is a continuous and steady one. To this fact, no doubt, Peruvian Guano (if genuine) owed the high position which it commanded in earlier days, and which its scarceness and comparatively high price alone prevented its continuing to occupy a prominent position among general fertilisers. The fact of much larger and regular supplies of it being now available will, despite its necessarily somewhat high price, go far to re-establish it in general favour among growers, especially of such crops as fruit, hops, and market garden produce generally.

Continued attention has been directed to the paramount need of much of the land of this country—viz., lime—but, though something has been done by means of the Fertilisers Act to ensure that lime of different kinds be sold according to guarantee, there is yet much that remains for improvement alike in respect of the kind of lime obtainable in different districts, and in the cheapening of the cost of production and transit of the same.

MISCELLANEOUS.

Under this head mention is made of water that acts upon metallic pipes, cisterns, &c., and of means taken to prevent this action—and of a process adopted for preventing the formation of "scale" in boilers, from the use of hard waters. An instance is given of a soil markedly deficient in lime; the sugar percentage in sugar-beets is referred to, and the matter of Arsenic contents in Hops.

I now proceed to give, in brief detail, points of interest arising out of the samples submitted to me by members of the Society during the year.

A. FEEDING STUFFS.

1. *Linseed Cake.*

The samples sent were good with the exception of the kind known as "screw-pressed." This latter comes, I believe, from

Calcutta, and arrives, not in the usual form of cakes, but rather as "flakes," as if it had been the scum of some boiling process, skimmed off, pressed and dried. This I have found to be of very variable nature; sometimes it is much mixed with rape seed, weed seeds, &c.; at other times—and, indeed, very generally—it has excess of sand; and almost invariably it has a "burnt" sort of flavour and smell, quite unlike that of nice fresh Linseed cake. I have not unfrequently had complaints about it, but, apart from the sand, have been unable—when it is free from rape, castor-oil bean, weed seeds, &c.—to trace anything of directly harmful nature. The most I can say is "that I don't like the cake!"

In one case brought to my notice a member had bought a quantity of this cake for his stock, and complained that they went off their feed and were scouring badly. This was confirmed by the veterinary surgeon who attended the animals and who reported the presence of some irritant. On examination of samples from three different bags of the delivery, I found them to contain sand in the following amounts:—

	A.	B.	C.
Percentage of Sand . . .	8·29	6·31	6·59

Further, the cake was found to be mouldy in parts.

The delivery was returned to the vendor, who paid ample compensation.

2. *Cotton Cake.*

In an instance where Cotton cake was sold as "Grecian Cotton cake" at £8 10*s.* per ton, the following was the analysis:—

	Per cent.
Oil	8·69
Albuminoids	22·19
[1] Mineral Matter	4·99
[1] including Sand and Silica	·33

Though the cake gave a comparatively high analysis, I found it to be extremely "woolly." Seeing that good Egyptian Cotton cake was then fetching only £7 5*s.* per ton, the cake in question was decidedly dear. Woolly cake of this kind is a risky food to be given to sheep or to young stock of any kind, though, no doubt, older cattle, especially if out on grass, may do quite well on it.

3. *Ground Nut Cake.*

A sample was sent me of Ground Nut cake. On analysis, this gave the following results:—

	Per cent.
Moisture	8·67
Oil	13·96
Albuminoids	30·18
Carbohydrates, &c.	20·93
Woody Fibre	22·14
[1] Mineral Matter	4·12
	100·00
Nitrogen	4·83
[1] including Sand and Silica	1·13

The price was £11 per ton, which, seeing that Decorticated Ground Nut cake giving 15 per cent. of Oil and 42 per cent. of Albuminoids was then selling at £12 10*s*. per ton only, cannot be considered good value.

4. *Compound Feeding Cakes.*

I have referred earlier—as I have done frequently in the past—to the fact that the chemical analysis of a compound cake or meal does not necessarily indicate its feeding value either alone or in comparison with other and somewhat similar foods, but that the component parts of each must be taken into consideration also. The following instance well illustrates my point. A member sent me for analysis two Dairy cakes, mentioning (without, however, specifying which) that one of them the cattle liked and throve upon, but that on the other they did not do well and did not seem to care for it. The respective analyses were :—

	A. Per cent.	B. Per cent.
Moisture	13·21	12·55
Oil	5·88	6·49
Albuminoids	23·56	20·13
Carbohydrates, Woody Fibre, &c.	49·16	53·49
[1] Mineral Matter	8·19	7·34
	100·00	100·00
Nitrogen	3·77	3·22
[1] including Sand and Silica	1·07	·89

The analyses, it will be seen, were not widely different and did not enable any conclusion to be drawn from them. But, on examining the cakes microscopically, I found that, while each alike contained, as the principal ingredients, Cotton, Rice, Locust beans and Oats, B had, in addition, hop and yeast refuse. This latter imparted a distinctly bitter taste to the cake, and this cake, as I rightly conjectured, proved to be the one that the cattle did not take a liking to.

5. *Wheat Offals.*

In one case where a sample of Middlings—sold as pure—was sent to me, I found—by microscopical examination (for it was undetectable otherwise)—rice-husk (shudes), finely ground up, to be present, as well as weed seeds in some quantity. The analysis gave :—

Percentage of	[1] Mineral Matter	9·72
	[1] including Sand and Silica . .	1·88

As pure Middlings will only have about ·10 per cent of sand, &c., it was clear that the above came from the rice-husks (a very siliceous material). The Middlings, it turned out, were imported from Egypt, and passed through several hands before coming to the final vendor.

Two young pigs out of eight to which the Middlings had been fed had died. The purchaser was fully compensated for his losses.

6. *Barley Meal.*

This subject has been so fully referred to already that it is only necessary to mention two specific cases. In the first of these a member had purchased barley meal which proved to be ground from Canadian barley, and had given it to his pigs. Two of them had epileptic fits, one of them dying, while other pigs were taken ill. On changing the food, however, to home-grown barley meal, there was no further trouble.

In a second instance several pigs died after feeding on barley meal. On examining a sample of the meal I found it to be very acid and in unsound condition. It also contained 4·35 per cent. of sand and silica. Although the vendors at first stated that they never made barley meal from other than home-grown barley, it turned out, on closer inquiry, that Algerian barley had been used. The vendors took the meal back and compensated the purchaser.

B. FERTILISERS.

These, as already noted, have been, in general, very satisfactory, and prices moderate, so that the farmer has had but little to complain of, especially as the extended production of synthetic nitrogenous fertilisers has gone to a cheapening of these and a lowering of the unit price of nitrogen.

1. *Sulfurophosphate.*

In place of treating mineral phosphate in the usual way with sulphuric acid, to form superphosphate, a new process has been introduced, viz., that of treating, at a high temperature, ground mineral phosphate with sulphur. This results in a material called "Sulfurophosphate," the analysis of a sample sent me being :—

	Per cent.
Phosphoric Acid (total)	19·46
equal to Tribasic Phosphate of Lime	42·50
Lime (total)	32·70
Siliceous Matter	20·55
Oxide of Iron and Alumina	·15

It is claimed for this material that it "has no free acid and does not sour the land like superphosphate," but, inasmuch as the notion that free acid in superphosphate has this effect has been exploded, there is no point in the contention. There is little doubt, however, that the phosphate would be fairly readily available. The price was 60*s.* per ton delivered, which is not out of the way, and, though it is questionable whether any particular advantage accrues to the use of this material over superphosphate, it may be worth a trial.

2. *Nitrophoska.*

Another phosphate-containing material sent me was one under the above name. It is a very concentrated fertiliser containing alike nitrogen, phosphate and potash, each in high amount, and, thus, is especially suitable for export purposes. The analysis of a sample I received was :—

	Per cent.
Nitrogen	16·73
Phosphoric Acid	22·88
Potash	17·89

The price of this was £16 10*s.* per ton delivered, which cannot be considered at all high.

3. *Basic Slag.*

A sample of this, offered at the low price of 23*s.* per ton delivered, was sent me from S. Wales. The analysis showed it to have :—

	Per cent.
Phosphoric Acid	10·58
equal to Tribasic Phosphate of Lime	23·11

and to have a Fineness of 90·5 per cent.

This, being well-ground and low-priced, should be quite worth a trial, though its quality may be low.

4. *Peruvian Guano.*

Several samples of the new deliveries of this fertiliser were sent to me, the analysis in each case showing the quality to be high, and, if this standard be maintained and supplies are regular, there is little doubt about this once favourite fertiliser coming into regular use again.

	A. Per cent.	B. Per cent.
Moisture	23·67	22·94
Organic Matter	43·58	42·12
Phosphate of Lime	22·97	23·35
Alkalies, &c.	4·98	7·10
Insoluble Siliceous Matter	4·80	4·49
	100·00	100·00
Nitrogen	12·64	12·05
equal to Ammonia	15·37	14·65

5. *Lime, Carbonate of Lime, &c.*

As usual, the samples submitted to me have been of very variable nature and corresponding uncertain value. The following analyses may be given by way of illustration :—

(*a*) *Lime.*

	A. Per cent.	B. Per cent.	C. Per cent.
Oxide of Iron and Alumina	4·75	6·43	2·97
Lime	81·17	72·58	73·37
Silica	8·12	11·88	6·73
Magnesia, Carbonic Acid, &c.	5·96	9·11	16·93
	100·00	100·00	100·00

(*b*) *Carbonate of Lime, limestone, &c.*

	D. Per cent.	E. Per cent.	F. Per cent.
Oxide of Iron and Alumina	4·95	·69	·59
Carbonate of Lime	42·08	86·36	97·91
Carbonate of Magnesia	26·38	—	—
Silica	25·64	4·08	1·29
Moisture, &c.	·95	8·87	·21
	100·00	100·00	100·00

A was ground agricultural lime, costing 37*s*. 2*d*. per ton delivered in Sussex. It was very finely ground and quite worth the price. B was bought in Warwickshire, the price, with carriage, being 15*s*. a ton only, and it was well worth getting.

C came from Yorkshire, costing 42*s*. 3*d*. per ton delivered. Giving, as it did, only about 73 per cent. of lime, whereas lump lime with 90 per cent. of lime can be got from Derbyshire at 35*s*. 9*d*. per ton delivered, this cannot be called a good bargain.

E costing 39*s*. 6*d*. per ton delivered (Yorks), and, being carbonate of lime and not burnt lime, was very dear.

F was nearly pure ground chalk, and, at the price (18*s.* per ton delivered), was decidedly good value.

D was a sample of Limestone from an estate in Nottinghamshire. The stone being found on the estate, it was desired to know if it was worth burning into lime. Ordinarily speaking, and when limestone or chalk is near at hand, this would be the most economical plan; but when, as here, the natural stone was of so inferior a quality, containing only 42 per cent. of carbonate of lime, along with 25½ per cent. of silica and 26 per cent. of carbonate of magnesia, it would never "pay" for burning.

C. MISCELLANEOUS.

1. *Water acting on metal pipes, &c.*

A sample of water was sent me from Devonshire, this, as the following analysis shows, proving to be very soft, though free from any harmful impurity.

	Grains per Gallon.
Total Solids	7·70
Oxidisable Organic Matter	·08
Chlorine	1·30
equal to Chloride of Sodium	2·14
Nitric Acid (as Nitrates)	·73
Free Ammonia	None
Albuminoid Ammonia	·003

The water was found, however, to act rapidly upon iron, galvanised iron and lead, and, though to a considerably lesser extent, on copper. In such cases it does not do to use pipes, cisterns, &c., made of these metals, for conveying or storing the water, and the best plan is to use iron pipes coated within with tar or with one of the protective preparations in common use for the purpose. For the hot-water pipes and boilers, and where coated iron pipes could, of course, not be used, copper would be the safest material to employ.

2. *Water-softening Methods.*

Arising from a sample sent me by a member, of what looked like linseed (the sender wishing to know whether it could be employed for feeding), there was brought to my notice one of the methods adopted in breweries and industrial operations generally, for the purpose of preventing the formation of the "scale" in boilers that would be produced by a hard water. The method is to introduce steam into an apparatus that contains linseed, and to let the extracted matter pass into the boiler in which the hard water is. The steam extracts the mucilage and similar soluble matters of the linseed, without, however, removing the oil, and the result is that the lime salts are kept in a colloidal condition and do not deposit on the sides or bottom of the boiler. It would appear that this process is adopted to a considerable extent in different industries.

The linseed itself, after this treatment, it is almost unnecessary to say, would be of little use for feeding purposes.

3. *Soil deficient in Lime.*

As usual, the samples of soils sent me for analysis have in most cases proved to have lime as their chief deficiency. One such soil, coming from Cheshire, gave the following analysis :—

(Soil dried at 100° C.)	
Organic Matter and loss on heating	6·670
Oxide of Iron and Alumina	3·457
Lime	·167
Alkalies, Magnesia, &c.	·898
Insoluble Siliceous Matter	88·808
	100·000

This was from a pasture field, and was a light sandy loam. It gave a decided acid reaction, and, as the analysis shows, was wanting in lime. The use of this on such land is a necessary preliminary to any other fertilisers being used with any hope of success.

4. *Sugar-beet.*

A single sample sent me, from Lincolnshire, gave 16 per cent. of sugar (cold water extract), this being somewhat below the general average for the year.

5. *Arsenic in Hops.*

The question of Arsenic in Hops still commands attention; in the case of three different lots of Hops sent me (all from Hampshire) I found the amounts of Arsenic present to be below what is the generally recognised maximum allowed (1/100 grain Arsenious Oxide to the lb.). They gave respectively 1/180th grain, 1/200th grain and 1/200th grain per lb. The general adoption of hot-air drying kilns in place of the old-fashioned open kilns is likely to remove this possible source of trouble altogether in the future.

The following is the list of samples analysed on behalf of members of the Society during the 12 months, December 1, 1928, to November 30, 1929. In addition to these, there were 18 samples of cider analysed in connection with the Country Show of the Society at Harrogate :—

Linseed Cakes and Meals	5
Cotton Cakes and Meals	4
Compound Feeding Cakes and Meals	16
Cereals, Offals, &c.	21
Silage	2
Superphosphate	2
Compound Manures	4
Basic Slag	6
North African Phosphate	1
Raw and Steamed Bones	3
Meat and Bone Meal	3
Fish Guano	1
Peruvian Guano	3
Potash Materials	4
Shoddy, &c.	13
Lime, Chalk, &c.	11
Milk, Butter, &c.	5
Waters	28
Soils	10
Miscellaneous	20
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ANNUAL REPORT FOR 1929 OF THE BOTANIST.

ON no occasion within the last twenty years has the scope of the inquiries received in the Botanical Department been determined so unmistakably by the weather conditions. In fact it is almost necessary for giving an orderly account of the year's work to refer briefly to them and to their effects on the crops of the farm. Such an account, derived as it has to be from personal experience, cannot cover the whole country. It is based on notes made for the most part in Cambridge but supplemented by observations made from time to time in the belt of country extending easterly from Somerset to Essex. They cover the area in which the effects of the drought of 1929 were most marked. Drought effects were felt over the greater part of the country but to a very varying extent, and those unfamiliar with the facts would have found it hard to credit that in September in great areas of Bedfordshire the pastures were parched to the colour of sandy plains, whilst no further away than Derbyshire the aftermath was already from six inches to a foot high. The effects of the severity of the winter and spring months were however general and more uniform.

January, which is normally a month in which plant growth and out-door work are more or less at a standstill, was no exception to the general rule. The conditions in February were a repetition of those of the previous month; almost continuous and unusually severe frosts made the land unworkable and its effects on the crops began to become evident. Most of the older foliage on the young wheat was killed though the youngest leaves were generally uninjured. Oats, with the exception of Grey Winter, were killed outright and the autumn-sown barleys were damaged to such an extent that their recovery was problematical. Beans were blackened and often killed to the ground, but as the buds in the axils of the cotyledons seemed uninjured there was no reason to expect that the crops would not recover when conditions for growth became favourable. Even the foliage of the grasses was killed and dried out to such an extent that by the end of the month one could not travel far without encountering road-side grass fires and burning hedgerows. As seen from a height the whole countryside was then a dull brownish-grey colour with hardly a sign of green visible even on the arable land. In bright sunshine the sere vegetation was curiously suggestive of the sun-parched savannahs in the tropics.

The receipt of four inquiries only during February gave some indication of the completeness of the stoppage of work on the land.

March brought little change. Up till the third week sharp frosts at night checked growth though, in spite of the lack of rain, conditions were otherwise favourable. There was ample moisture stored in the most perfect soil tilth that has been seen for years, but the surface itself was so dry that dust was blowing even on the boulder clays. By the end of the month it was certain that much of the land sown in the previous autumn would have to be re-seeded. Throughout April conditions were almost ideal for such work. The seed-bed was exceptionally good and only the use of a light roller was necessary to ensure a supply of moisture for germination. But the young plants were exposed to frosts, often of considerable severity for the time of the year, and their growth was badly checked.

The drought, which had been more or less persistent throughout the year, broke in the first week of May and a spell of spring-like weather set in. At this time all vegetation was in an abnormally backward condition. The foliage buds of hawthorn were just beginning to become green, pear trees were in blossom and some of the earlier varieties of apples were "showing pink." The grass too had, at last, begun to shoot more strongly. Growth remained backward throughout the month and early varieties of wheat which generally shoot their ears on May 24 deferred this stage until June 7, whilst other cereals were correspondingly late.

Even as late as the third week of June the effects of a rainfall, then less than half the normal, were not as serious as might have been anticipated. They were beginning to accumulate though and a week later the basal foliage of the cereals, particularly of barley, was dying rapidly and the chances of a general collapse seemed considerable. A shower sufficiently heavy to slightly lodge some of the corn crops saved the situation temporarily, but a week of intense sunshine about the middle of July did away with any hopes of a thorough recovery. Wherever there were patches of thin or gravelly soil the crops began to dry out, the barley crop especially mapping the position of areas in which the supply of soil water had failed. Even sugar beet, which has now proved an excellent drought resister, wilted before midday and shed some of its foliage on the driest patches.

Under these conditions the harvest hastened on and the cutting of winter oats was fairly general by the last week of the month. Here and there too an early field of wheat was cut though the bulk was not ready for the binder until the end of the first week of August. Much of the barley also was ripe and so dry that it could have been cut and carried on the same day. In spite then of the lateness of flowering the cereals had reached their final stage of development about the normal period.

But on the driest soils the ripening process was not normal. The grain had reached nearly its full size by the end of July. Then with no water supply available for the root system, or at the best a scanty one, it merely dried up. Where barley finished in this manner the grains were under average in size, shrivelled, dingy brownish-yellow in colour and steely in texture. The germination capacity of a number of such poor-looking samples has however been found to be satisfactory and there can be no question that they are fit for seed though useless for malting. Wheat appears to have suffered in a somewhat similar manner, for the baking quality is lower than was expected after so sunny a summer.

Grassland.—The slow growth made in the meadows during the early spring and the subsequent drought made it certain that the hay crop in the drier districts would be a light one. The temporary grassland was less affected by these conditions. The broad red clover almost invariably used in quantity for one year leys showed unexpected powers of withstanding the drought and contributed largely to a yield which generally outclassed that obtained from meadow land. Conditions for the growth of the grasses and clovers became even worse after the gathering in of the hay crop and any prospects of a good aftermath compensating appreciably for the scanty crops soon disappeared. What little moisture there was in the upper layer of the soil soon dried out and by August growth had practically ceased and pastures and meadows for the second time in the season showed hardly a sign of their usual colour. All of the grass species, though some have a reputation for drought resistance, suffered. Fiorin (*Agrostis stolonifera*), a species to which little value is generally attached, withstood the drying out better than any others. When this failed the green vegetation of many good pastures was represented by patches of white clover and plantains, whilst on badly-farmed land stinging nettles and thistles continued their growth, apparently, unchecked.

The slight rains falling in early August dried out too quickly to be of any appreciable value to the grasslands and it was not until the second week of October that enough had fallen to revive the parched fields.

Leys of two and three years' standing stood up to the effects of the drought better than permanent grassland, and even towards the end of July they were capable of carrying their usual head of stock. Possibly some of their initial tilth still persisted and helped to conserve the moisture lifted by capillarity from the deeper layers of the soil.

The experience gained during this abnormal season lends much support to the view that in districts where the rainfall is usually scanty temporary grassland has distinct advantages over permanent. At the same time it emphasised one difficulty which makes any suggestion to replace permanent by temporary grass one to be accepted with caution, that being the uncertainty of obtaining a plant. In the drier parts of the country a considerable area of spring-sown seeds mixtures failed. Growth was satisfactory enough in the earlier stages, but by the time the cereal crops were cut the young plants had died. Where an early sowing of crimson clover (*Trifolium incarnatum*) could be made on the stubbles there was a chance of a substitute for the usual clover and ryegrass being obtained, but in the districts where this was most required it is probable that the germination of the seed was delayed until too late in the season for the maximum crop to be secured in 1930.

The possibility of "reinforcing" the turf by working in a seed dressing of ryegrass and white clover was the subject of several inquiries, particularly when the effects of the drought began to be obvious. There seems to be little if any experimental evidence to indicate the value of the method. The obvious difficulty is to cover the seed satisfactorily and secure good conditions for germination. These were lacking until well on into the autumn months.

Though the problems associated with the management of grassland were so clearly marked during the year the demand for information about laying land down permanently showed no signs of falling off and another twenty copies of the Society's leaflet were sent out. Three seedsmen's mixtures for the purpose were reported on after a detailed analysis which indicated, as is so often the case, that they were unnecessarily complex and included the seed of species from which a return would hardly be expected.

Weeds.—The list of species of weeds reported on during the season was less extensive than in former years. It was unusual too inasmuch as most of the specimens were taken from grassland. Hardly any were of any general interest, being for the most part annuals or short-lived perennials which though too obvious at the time in recently sown fields will, in the ordinary course of events, die out as the competition of the grasses becomes more severe. Rest-harrow, one of the particularly bad weeds of heavy land, was sent in for identification on three occasions. The drought had no effect on this plant unless indeed it was responsible for an unusual amount of blossom and seed. Stubbing out followed by hard grazing are at present the only means of control. Yarrow twice came within the category of plants considered as weeds. It was probably no more abundant than usual but as its foliage remained green when that of the grasses was sun-bleached its presence became very obvious.

At one time the inclusion of yarrow seeds in mixtures for permanent grassland was a common practice. It is less general now for experience has shown that its closely matted habit of growth often results in the killing out of more useful grass species. Perennial ryegrass and white clover were two other plants which one inquirer looked upon as weeds. They occurred on newly-sown lawns where, as neither was required, the description is accurate.

Plant Diseases.—The inquiries concerning fungoid diseases were of the same order of frequency as in the previous year. Yet the general state of affairs with regard to the commoner diseases of crops was distinctly different. Whereas in 1927–8 their incidence was about normal, or possibly a little less than normal, in 1928–9 it was, very definitely, far less than normal. In fact in the dry zone extending due east from Gloucestershire some of the commoner pests either could not be found at all or traces of them were only discovered after extensive searching. Thus weekly observations of wheatfields in Cambridgeshire showed a complete absence of yellow rust until almost the end of June when a few feeble pustules were detected. These failed to spread to any extent and it was clear even at that date that, for once, wheat yields would not be depreciated by the attacks of this pest. As in the wetter districts of the south-west and again in the north more rust was present it seems reasonable to attribute this unique state of affairs directly to the unusually droughty conditions. The two other native species, the brown and black rusts, which as a rule do little damage here though they cause enormous losses in hotter countries, were also practically absent and their presence would not have been detected had not a special search been made for them. It is rarely that the dependence of the intensity of rust attacks on climatic conditions is so obvious. It would appear that the wheat itself was, for once, immune, for on the plots on which these observations were mostly made there was, strangely enough, every opportunity of its becoming infected. This was due to their propinquity to a late-sown collection of varieties from various parts of the world, many of which were so badly attacked that they were almost killed out. Evidently then the conditions were not particularly unfavourable to the rust.

The incidence of the other common wheat diseases, bunt, smut and whiteheads appeared to be about the normal.

The potato crop in turn was singularly free from its worst enemy *Phytophthora infestans,* the fungus responsible for the disease known as "blight." The reports from mycologists in various parts of the country agreed on the fact that its first appearance was unusually late. There was no fear of its spreading either as long as the weather remained dry, for moisture is essential for the further development of the spores produced on infected foliage. The fungus was in fact rare in the potato-growing districts south of the Trent but to the north it was more abundant, though as no epidemics were reported it can have caused little damage. Its rarity resulted directly in the saving of an unknown percentage of the crop which is usually lost through its attacks. This offset the tendency to low yields common to all districts except those with either an ample rainfall or a permanently high water table.

There are no data for estimating whether the other diseases of this crop were checked. Two specimens of both the common scab (Actinomyces) and the powdery scab (Spongospora) were sent in for identification, the former, as is frequently the case, from a crop on newly-broken land.

It is doubtful how far the prevalence of the group of fungi known as "mildews" was affected by weather conditions. With no definite standards for comparison and too few specimens coming in to form a representative sample, any opinion on the subject is largely a matter of guesswork. All of the common cereal mildews were present but no serious outbreaks were either seen or reported. Those of fruit trees, especially the apple mildew, were common early in the year, but there seems to have been little fresh infection and later growth was generally disease free. On the other hand, the attacks of swede mildew were severe and in conjunction with aphides they caused an unusual amount of damage. Some of the common weed mildews, especially that found on knot-grass, were so abundant that it was difficult to find an uninfected leaf.

The scab diseases of the apple and pear, which are as a rule the commonest diseases the Botanical Department has to deal with, were only represented six times in the annual list of plant pests. Both were fairly generally present but the fruit was less severely attacked than it has been during the last few years. An examination during the late autumn of some of the more susceptible varieties showed that the falling leaves were unusually free from the fungus. There is therefore a welcome break in the intensity of this disease and an opportunity of better control of it by the destruction of dead foliage, the pruning out of infected twigs and the usual routine of spraying.

Amongst the other diseases reported on, frequently on one occasion only, were :—halo blight of oats, leaf-stripe in barley, mangold rust, finger and toe, leaf spot and "clover-sickness" in lucerne, silver leaf and dieback (? Diaporthe) in plums, ring spot in cattle cabbage, rots due to Botrytis in onions and cucumbers, black currant rust and anthracnose and mosaic in raspberries. There was a noteworthy absence of inquiries about the chocolate spot of beans and the celery leaf spot.

More queries than usual were received on the subject of spraying as a consequence of the unsuitable conditions for the use of winter washes. The correspondence indicated that this was often the sole form of control made use of, and when, early in March, a rapid development of the buds was to be shortly anticipated some substitute for lime washes and washes prepared from coal tar derivatives was inquired for. Information on the use of lime-sulphur and the methods of preparation of some of the commoner fungicides was provided to sixteen members.

Poisonous Plants.—One presumed case of sheep poisoning by butter-cups was brought to the notice of the Department. An examination of the stomach contents tended to confirm the diagnosis for leaves of *Ranunculus acris* were present in abundance. Traveller's Joy (*Clematis vitalba*) was considered to be the cause of a horse's death but the evidence was doubtful. An inquiry concerning the possibility of may weed in hay being harmful to stock was the result of an abundant growth of this plant in a field seeded down in the previous year. In replying the necessity for using the hay cautiously was pointed out. Stock generally avoid its strong-smelling foliage and there is no definite evidence that the plant is poisonous. But it is known that the ripe seeds, which were unlikely to be present in any quantity in the hay, contain hydrocyanic acid. Another botanical analysis of hay, to the use of which serious trouble amongst young bullocks was attributed, revealed the fact that it contained no less than three harmful plants. One of these, mares tail, was present to the extent of roughly one-third of the crop. The hay had been purchased to supplement the home-grown supply though in reality it was only fit for litter.

Crops.—In addition to the usual inquiries about the suitability of various cereals for specific soil and climatic conditions a few inquiries were received about other crops. Two of these were concerned with the possibility of cultivating soy beans in this country. They apparently owed their origin to the appearance of an optimistic account of the value of the crop in the daily press. As far as can be gathered at present no one who has attempted to grow the plant has taken up its cultivation on the commercial scale. Large numbers of varieties have been tested at experimental stations, in some cases after inoculating the seed with watery extracts of their native soil in order to secure the growth of their characteristic nodules. But though the plants grow and sometimes produce a few seeds there seems no likelihood of the crop being able to compete with imported soy beans. Neither are there any serious prospects of its competing with our ordinary forage crops.

The dry season naturally stimulated interest in the drought-resisting lucerne, which incidentally found the weather somewhat too dry for it and hardly gave an average yield in the eastern counties. The likelihood of its succeeding in various parts of the country was the subject matter of several inquiries which could only be answered a little indefinitely. It is known that the crop can be grown over a wider range than the statistics of its present distribution indicate and that it is possible to cultivate it outside of the drier parts of the country to which it is now more or less confined. But little is known with regard to the lasting capacity of the plant in regions where the yearly rainfall is much in excess of 25 inches.

Two specimen lots of bulbless swedes were received for identification in the autumn. The occurrence of such plants in a normal crop is a puzzling phenomenon made none the easier to investigate by the fact that in some respects they resemble plants of rape. It is of practical importance too, for rape seed is sufficiently like swede seed for mistakes to be made in its distribution from seed stores. Where these bulbless plants occur the natural assumption is that it is the result of admixture of the two sorts of seeds. Questions may then arise as to vendor's guarantee. Evidence is beginning to accumulate however which shows that these plants are not the true rape, and consequently no admixture of seed can explain their occurrence. They are rather swedes which have lost the habit of bulbformation. The loss too seems to be final, for though a number of such plants have been seeded down no bulb-bearing forms have been found amongst their offspring. The Botanical Department would appreciate an opportunity of inspecting and collecting plants in fields in which such abnormalities occur.

Seed-testing.—The demand for determinations of the germinating capacity and the purity of seeds now appears to be stabilised at from thirty to forty samples a year, practically all of which are home-grown. The corresponding figures for the period immediately before the passing of the Seeds Act were 150 to 200. There is obviously far less necessity now for such tests, but the experience of the last few years shows that a considerable percentage of the home-grown samples are faulty in respect both of purity and germination. One admittedly exceptional example may serve to illustrate the advisability of having an examination of the seed made. This was provided by a sample of broad red clover which, whilst fairly free from weed seeds, had so low a germinating capacity that a seed-rate of at least 60 lb. per acre was indicated as necessary to secure a plant of the normal density. Had this been sown and had the weed seeds germinated and grown satisfactorily each square foot of the field would have carried about six plants of docks, white campions and wild carrots.

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ANNUAL REPORT FOR 1929 OF THE ZOOLOGIST.

INTRODUCTION.

THE very abnormal character of the weather during 1929 had a marked influence on the pests attacking the various crops, and several of the cases of injury submitted for advice were found to be due to the weather and not to insect attack. Again weather conditions were so obviously the cause of failure in many instances that the pests, even when present, were of minor importance. Insects when snugly ensconced in their winter quarters are seldom killed by cold, however severe, and though there was some evidence that the more exposed species, like the aphids wintering on the twigs of fruit trees, did to some extent succumb, the effect on most pests was rather to delay their appearance and to cause a sort of dislocation of their life-history, their host plants often recovering more quickly than the insects and making good progress before the pests appeared. Sooner or later every imaginable pest declared itself, but it was not until the late summer, when crops had been weakened by drought, that the most formidable attacks were reported.

On the instruction of the Botanical and Zoological Committee I accepted the invitation of the Leathersellers' Company to join the Committee instituted by them to consider the whole question of the warble-fly on cattle, with a view to undertaking a vigorous campaign towards the eradication, or at all events the mitigation of this cause of serious annual loss to the country. Interest in this matter has been aroused once more by the very considerable success attending the war against warble-fly waged in Denmark during the last few years.

CEREALS.

The outstanding cereal pest of the year was certainly the wheat bulb-fly. In the Eastern Counties it was more prevalent than for many years past. It was again observed that the worst attacks were on wheat after a summer fallow. In one case near Cambridge winter barley suffered from the fly.

Frit-fly was not present to any great extent in the oat crops, nor did I receive any reports of gout-fly in barley. There were, as usual, many complaints of wireworm and leather-jacket in various cereal crops, but slugs, so troublesome in 1927 and 1928, found the weather conditions against them and did comparatively little harm.

It is generally possible to find a few "cockled" ears in a wheat field, where the grain has been destroyed and blackened by the eel-worm (*Tylenchus scandens*), but it is not often that they are numerous enough to attract attention. This year they were noticeable to an unusual extent, and in some cases the yield was materially affected. If such black grains are numerous in the "cavings" after threshing it is desirable that they should be destroyed at once, for each grain contains a large number of eel-worms which may attack future crops.

There were sporadic attacks of various other pests in corn crops. Earwigs, which have been unusually destructive this year to a wide variety of plants, were in one case found to be doing distinct injury to wheat. An oat crop was found to be attacked in June by a grub which proved to be that of the garden chafer (*Phyllopertha horticola*).

ROOT AND VEGETABLE CROPS.

It was in this section that the effect of the long cold spring was most noticeable, and it was not until June that reports of important attacks began to be received, though there were a few earlier complaints of white-fly and gall-weevil in vegetables and of mustard beetle in mustard. The last-named pest became exceedingly prevalent in mustard-growing areas at a later date, the summer drought furnishing ideal conditions for its increase. Other dry-weather pests, such as *Sitona* weevils on peas and flea-beetles on cruciferous crops, were favoured by the drought and did much harm.

Weather influences had so adversely affected many vegetable crops that there was no need to look further for the cause of their failure, but a multitude of pests completed the havoc caused by frost and drought. Celery-fly was particularly abundant and appeared early, plants being badly blighted even in the seed-bed, and parsnips suffering quite severely. There were many complaints of mangold-fly on both mangold and beet, and the various cabbage caterpillars, especially that of the large white butterfly, appeared in multitudes on the weakened brassicas. Onion-fly and root-fly on turnips were also widely reported. Capsid bugs, generally noticeable from the injury they inflict on apples, were this year recorded as doing harm to many crops other than fruit, notably to potatoes, mangold and beet.

Late in the summer cabbages and allied crops were very severely infested with aphis, which was present to such an unusual extent that many plants in gardens and allotments were rendered worthless by this cause alone. Early in September general attention was attracted in the neighbourhood of Cambridge to immense swarms of aphis which filled the air. There were several species in the swarms, but the cabbage aphis (*Brevicoryne brassicae*) predominated. Currant aphis and plum aphis were also found by Mr. F. V. Theobald among the specimens sent to him for identification. The very rapid rate of increase characteristic of these insects often leads to the belief that they have suddenly descended on a crop in large numbers whereas in reality their first appearance had not been noted. Certain conditions of the atmosphere are supposed to cause a "blight," and to bring about an aphis attack. Such swarms, however, generally occur at the conclusion of severe attacks and not at the beginning, when comparatively few individuals so rapidly became myriads as to give the impression of a sudden onset.

FRUIT CROPS.

The year was far advanced before most of the fruit pests began to declare themselves in any abundance. The cold spring, if not fatal to them, at all events delayed their appearance, and during the first quarter nothing came to hand except enquiries about winter moth and a complaint of leather-jacket injury to strawberries. In May apple-blossom weevil, apple capsids and apple sucker on unsprayed trees were enquired about, and apple saw-fly, which was to prove one of the outstanding pests of the year, began to declare itself. Complaints of its ravages continued to be received during June and July, and in many cases the infested trees were recognisable at once by the litter of prematurely fallen fruit on the ground beneath.

With the dry weather red spider—especially on gooseberries and on strawberries—began to be troublesome, but it was noteworthy that for a long time aphis delayed its appearance, both on fruit trees and on other crops, even the ubiquitous bean aphis being far less prevalent than usual.

Among the other fruit pests enquired about were *Lecanium* scale on currants, pear midge and raspberry bud moth. In some cases the injury thought to be due to insect attack was found to be really attributable to the long spell of cold weather and the subsequent drought.

Some enquiries were received about the method of treating black currants suffering from big-bud by firing.

FOREST PESTS.

In the case of several of the enquiries concerning the failure of forest trees the trouble could not be attributed to any insect pest. A *Tetropium* beetle, for example, was accused of injuring larch trees, but this is a dead-wood insect, and was only attacking parts of the trees killed by a forest fire. In another case of failing red-wood trees where I could find no important insect attack, a high authority gave me his opinion that the failure was a belated result of the drought of 1921.

There were, however, a few cases of genuine insect attacks. *Chermes pini* was reported from a pine nursery, and complaints of willow midge were received from various quarters. Trouble in another forest nursery, where a large number of the seedlings had their roots destroyed, was found to be the work of "cut-worms" or surface caterpillars. Wireworm or cockchafer grubs had been suspected, but on turning up the soil large numbers of cut-worms were found. More than one complaint was received of bud-mite on cob and filberts, an attack which seems to be on the increase. The mite closely resembles that which causes big-bud in currants, and its effect is similar, the buds of the nut trees swelling and failing to develop.

Oak leaves attacked by saw-fly caterpillars were sent for examination and the insect proved to be *Selandria annulipes.* This species is common on lime trees but sometimes migrates to the oak where the grubs feed on the underside of the leaves. The matter was not considered serious, and it was not recommended that any action should be taken.

WARBLE-FLY.

In my Report for 1928 it was stated that we had availed ourselves, at the Cambridge University Farm, of the offer of the proprietors of "Bovidera" oil to furnish a supply for the purpose of experimenting with it as a cure for warbles. The results were sufficiently encouraging to make us inclined to give the treatment further trial, and the experiments were continued this year with certain modifications due to our previous experience.

There were thirty-two animals under treatment—twelve cows and twenty heifers. Eight of the heifers were home-bred; the other twelve had been bought in, and were from eighteen months to two years old. Observation began on Feb. 1, but it was not until March 18 that any warble swellings were found. In all, during the season, 257 warbles were developed. Of these the cows were accountable for 45—an average of 3·75 each. The heifers averaged 10·6 warbles per head; the bought animals had a slightly higher average—11·5. It is, of course, invariably the case that young animals are more warbled than the older, though the reason is obscure. There is no evidence that the flies are more attracted by the young animals and lay eggs more freely on them, and it has been suggested that the older animals have acquired a certain degree of immunity, and that fewer of the warble grubs succeed in carrying through their life-history.

When the oil was supplied, three methods of application were suggested: (1) injection into the warble holes with a blunt syringe, (2) the use of a brush, and (3) rubbing the oil in by hand or with a small piece of cloth. All were tried, but (1) and (2) were soon discontinued. The syringing method was economical in the expenditure of oil, but it seemed too difficult of application for general use, and there were sometimes rather bad swellings resulting, even when the dose was reduced to the minimum of 2 c.c.

The object of the experiment was to test thoroughly the efficacy of the oil, and treatment was carried out until warbles ceased to appear, without regard to what would be practicable in ordinary farm work. The first application was on March 18, and for some time the animals were inspected at intervals of 16 days but later an interval of 28 days was allowed. All the warble grubs were accounted for, but 22 had been squeezed out alive as they had developed so much between inspections that it seemed better to get rid of them in this way. The rest were all killed by the Bovidera oil, the shrivelled skins generally appearing as a sort of scab at the opening of the warble swelling. A disadvantage of the oil is its strong smell. The odour clings to the hands for days, and renders its application a rather disagreeable task, besides being somewhat questionable in the case of milch cows.

The action of the Leathersellers' Company in taking up vigorously the whole subject of the warble-fly and initiating a campaign against it is very heartily to be welcomed. They have appointed a Committee thoroughly representative of all the interests affected, and several meetings have already been held. They will naturally avoid the recommendation of any particular proprietary ointment, but they suggest that where a special treatment has already been found quite satisfactory it should be continued but that farmers who are about to treat their animals for the first time will find a derris soap wash cheap and effective. It consists of:

Powdered derris root	1 lb.
Soft soap	¼ lb.
Water	1 gallon.

Particulars of the various channels through which derris powders of approved quality can be obtained will be furnished by the Warble-fly Committee of the Leathersellers' Company on application.

MISCELLANEOUS.

A case was referred to me in which bees were accused of attacking and injuring the peaches of a neighbour of the bee-keeper. Two questions were propounded; (1) *do* bees do this? and (2) *can* bees so injure fruit?

The first question is easily answered. Certainly it is not a general practice of bees; otherwise fruit growers in the neighbourhood of hives would soon complain, and no such complaint is ever made to my knowledge. It is not done in bee society. As to whether they *can*, that question requires more consideration. One is asked to prove a negative, and one is reminded of the Irishman who, when a witness said he saw him steal a spade, offered to bring twenty witnesses who did not see him steal the spade. Bees are mandibulate insects; they have biting jaws. All the Hymenoptera to which the bees belong are mandibulate insects, but it is remarkable that those jaws are seldom used in feeding but are generally employed in other operations, principally in nest making. An examination of the jaws of worker bees shows that they are admirably adapted for moulding wax, but not at all suitable for cutting through the skin of unbroken fruit. They are not toothed at the extremity, but smooth and rounded. The jaws of wasps are very different. To make their nests they have to gnaw wood, which they convert into paper with their saliva, and the tools adapted for this purpose are necessarily quite formidable scrapers, easily capable of cutting into whole fruit. If one hesitates to say dogmatically that this operation is impossible to a bee one can at all events state that its jaws are extremely ill-adapted for the purpose.

There is a type of larva, often known as a "white grub," a white, wrinkled, clumsily built creature with a brown head and six legs, never holding itself straight, but with the thick hinder end of its body curved round underneath it. It lives underground and is found at the roots of various crops. Such grubs are often sent to me for advice on how to deal with them, and the sender always attributes them to the cockchafer,—sometimes correctly, but by no means always. Of the eight occasions when such grubs were sent to me during the past season three concerned the cockchafer; on the other five occasions the grubs proved to be the larvæ of different beetles.

This type of grub is characteristic of a whole group of beetles —the Lamellicorns—and it takes expert knowledge to distinguish one grub from another. For practical purposes the Lamellicorns in this country are the stag-beetles, the dung-beetles and the chafers, and their grubs look much alike. Of course when they are fully grown their size is some indication, but the half-grown larva of a big Lamellicorn beetle is not easily distinguished from the older larva of a smaller species. The stag-beetles do not concern the agriculturist, as their grubs feed on decaying wood and are generally to be found in the stumps of felled trees. The dung-beetles do concern him to some extent, for though they are primarily concerned with manure or decaying vegetable matter like leaf-mould they are apt to be carted in such infested manure and distributed on to a crop, in which case they may do considerable harm. This sometimes occurs with dung-beetles of the genus *Aphodius*, and a case occurred last July when they were found attacking mangolds. Our common large dung-beetle *Geotrupes* (the " dor " beetle) has grubs which are always taken for cockchafer grubs, but in this case they may be easily distinguished by the very short third leg of the larva.

The chafers are, of course, the most destructive of the Lamellicorns, but there are several kinds of chafer, and as these grubs are generally best combated by destroying the beetles which give rise to them, the particular chafer in question is clearly a matter of importance. The cockchafer is the largest and spends four years as a grub. The beetles feed on the leaves of trees,—preferably oak—and when the grubs are found in arable land it is generally in the neighbourhood of oak woods. The smaller " summer chafer " (*Rhizotrogus solstitialis*) does little harm to the foliage of trees, but its grubs are very destructive to the roots of grass and often of other crops. The little garden chafer (*Phyllopertha horticola*) is most noticeable from the havoc the beetle plays on the leaves of various garden trees, but its grubs are harmful to various roots, and last June they were found destroying grass and injuring an oat crop.

The handsome green rose chafer (*Cetonia aurata*) is a familiar insect in the south of England on roses and sometimes on strawberries and other crops. It is rare in the north, and it is surprising to find that Mr. Davies records its grubs as occurring in a field of gravelly soil on which sheep had been folded near Llandudno. I have not met with it so far north, but I received its grubs this October from Ascot, where they had been found in large numbers in a compost of horse manure and leaf-mould which had been used as a hotbed under a frame.

From this brief account it will be understood that when larvæ of this type are found at the roots of plants it is important to make quite sure of the particular beetle concerned, for the Lamellicorn beetles have very varied habits.

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Royal Agricultural Society of England.

(*Established May 9th,* 1838, *as the* English Agricultural Society, *and incorporated by Royal Charter on March 26th,* 1840.)

Patron.

HIS MOST GRACIOUS MAJESTY THE KING.

President for 1930.

THE DUKE OF GLOUCESTER, K.G.

Year when first elected on Council	
	Trustees.
1919	H.R.H. The Prince of Wales, K.G., *York House, S.W.*1.
1922	H.R.H. The Duke of York, K.G., 145 *Piccadilly, W.*1.
1930	H.R.H. The Duke of Gloucester, K.G., *Buckingham Palace, S.W.*1.
1905	Adeane, Charles, C.B., *Babraham Hall, Cambridge.*
1895	Bedford, Duke of, K.G., *Woburn Abbey, Bedfordshire.*
1893	Cornwallis, Lord, *Linton Park, Maidstone, Kent.*
1887	Crutchley, Percy, *Sunninghill Lodge, Ascot, Berkshire.*
1904	Daresbury, Lord, C.V.O., *Walton Hall, Warrington.*
1898	Devonshire, Duke of, K.G., *Chatsworth, Bakewell, Derbyshire.*
1910	Harlech, Lord, C.B., *Brogyntyn, Oswestry, Shropshire.*
1881	Parker, Hon. Cecil T., *The Grove, Corsham, Wiltshire.*
1891	Stanyforth, Lt.-Col. E. W., C.B., *Kirk Hammerton Hall, York.*
	Vice-Presidents.
1922	Brocklebank, Rev. C. H., *Westwood Park, West Bergholt, Essex.*
1908	Derby, Earl of, K.G., *Knowsley, Prescot, Lancashire.*
1924	Desborough, Lord, K.G., *Taplow Court, Buckinghamshire.*
1900	Greaves, R. M., *Wern, Portmadoc, North Wales.*
1929	Harewood, Earl of, K.G., *Chesterfield House, Mayfair, W.*1.
1903	Harrison, William, *Albion Iron Works, Leigh, Lancashire.*
1909	Hazlerigg, Sir Arthur G., Bart., *Noseley Hall, Leicestershire.*
1904	Mathews, Ernest, C.V.O., LL.D., *Elmodesham House, Amersham.*
1915	Portland, Duke of, K.G., *Welbeck Abbey, Worksop, Notts.*
1914	Powis, Earl of, *Powis Castle, Welshpool, Mont.*
1928	Tredegar, Viscount, C.B.E., *Tredegar Park, Newport, Mon.*
1907	Yarborough, Earl of, *Brocklesby Park, Habrough, Lincolnshire.*
	Ordinary Members of the Council.
1922	Alexander, Hubert, *The Croft, Sully, near Cardiff (Glamorgan).*
1923	Ashton, T. W., *Estate Office, Hursley Park, Winchester (Hampshire).*
1911	Behrens, Major Clive, *Swinton Grange, Malton (Yorks, N. Riding).*
1929	Bell, John, *The Hall, Thirsk (Yorks, N. Riding).*
1928	Bohane, Edward, C.B.E., *Simmons Court House, Donnybrook, Co. Dublin (Ireland).*
1906	Brocklehurst, Henry Dent, *Burley, Woolton Hill, Newbury, Berks (Gloucestershire).*
1918	Burke, U. Roland, *Edensor House, Bakewell (Derbyshire).*
1923	Burkitt, William, *Grange Hill, Bishop Auckland (Durham).*
1921	Burrell, Sir Merrik R., Bart., *Floodgates, West Grinstead (Sussex).*
1929	Buxton, Capt. H. G., *Cokesford Farm, Tittleshall, King's Lynn (Norfolk).*
1928	Christy, Capt. Hugh A., *Llangoed, Llyswen, Breconshire (South Wales).*
1924	Cotterell, Sir John R. G., Bart., *Garnons, Hereford (Herefordshire).*
1921	Courthope, Col. Sir G. L., Bart., M.C., M.P., *Whiligh (Sussex).*
1921	*Dampier-Whetham, W. C. D., M.A., F.R.S., *Upwater Lodge, Cambridge.*
1926	Dudgeon, Major Cecil R., M.P., *Cargen Holm, Dumfries (Scotland).*
1927	Dugdale, Major W. Marshall, D.S.O., *Llwyn, Llanfyllin, S.O. (North Wales).*
1929	Elgin and Kincardine, Earl of, C.M.G., *Broomhall, Dunfermline (Scotland).*
1913	Evens, John, *Burton, near Lincoln (Lincolnshire).*
1926	Everard, W. Lindsay, M.P., *Ratcliffe Hall, Leicester (Leicestershire).*
1905	Falconer, James, *Micheldever Station (Hampshire).*

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* Nominated Member of Council.

Ordinary Members of the Council (*continued*).

Year when first elected on Council	
1921	Fenwick, E. Guy, *North Luffenham Hall, Stamford* (*Rutland*).
1930	Fieldhouse, Ernest F., *Shipton Manor, Andoversford, Cheltenham* (*Gloucestershire*).
1906	FitzWalter, Lord, *Goodnestone, Canterbury* (*Kent*).
1928	Folkestone, Viscount, *Longford Estate Office, Alderbury, Salisbury* (*Wiltshire*).
1928	Forshaw, Thomas, *The Stud, Carlton-on-Trent, Newark* (*Nottinghamshire*).
1924	*Garrett, Col. Frank, C.B.E., *Aldringham House, nr. Leiston, Suffolk.*
1922	Gates, B. J., *Pembury, Tring* (*Buckinghamshire*).
1916	Gilbey. Sir Walter, Bart., *Elsenham Hall, Elsenham* (*Essex*).
1925	Hale, Windham E., *Mowbreck Hall, Kirkham* (*Lancashire*).
1925	Hall, J. Herbert, *Hill House, Mobberley, Knutsford* (*Cheshire*).
1905	Harris. Joseph, *Brackenburgh Tower, Carlisle* (*Cumberland*).
1926	Hastings, Lord, *Melton Constable Park* (*Norfolk*).
1905	Hiscock, Arthur, *Manor France Farm, Stourpaine, Blandford* (*Dorset*).
1919	Hobbs, Robert, *Kelmscott, Lechlade, Glos.* (*Oxfordshire*).
1923	Johnstone, Capt. G. H., *Trewithen, Grampound Road* (*Cornwall*).
1912	Lane-Fox, Col. Rt. Hon. G. R., M.P., *Bramham Park, Boston Spa* (*Yorks, W. Riding*).
1927	Loyd, A. T., *Lockinge House, Wantage* (*Berkshire*).
1909	Mansell, Alfred, *College Hill, Shrewsbury* (*Shropshire*).
1922	Matthews, Frank P., 27 *Cavendish Square, W.*1 (*London*).
1928	Matthews, R. Borlase, *Greater Felcourt, East Grinstead* (*Surrey*).
1922	Mildmay of Flete, Lord, *Flete, Ermington S.O.* (*Devon*).
1928	Mortimer, H. P., *Kingsley Windmill, via Warrington* (*Cheshire*).
1911	Myatt, John, *Lincoln House, Shenstone, Lichfield* (*Staffordshire*).
1927	Neame, Thomas, *The Offices, Macknade, Faversham* (*Kent*).
1922	Neilson, R. B., *Holmwood, Sandiway* (*Cheshire*).
1922	Newton, Sir Douglas, K.B.E., M.P., *Croxton Park, St. Neots* (*Huntingdonshire*)
1915	Oliver-Bellasis, Capt. R., *Shilton House, Coventry* (*Warwickshire*).
1925	Paget, Leopold C., *Hardwick Grange, Clumber Park, Worksop* (*Yorks, W. Riding*).
1921	Platt, Major Eric J. W., *Gorddinog, Llanfairfechan* (*North Wales*).
1916	Price, F. Hamlyn, 7 *Harley Gardens, The Boltons, S.W.*10 (*London*).
1924	*Ransome, Edward C., *Highwood, Ipswich.*
1905	Rea, George Grey, *Doddington, Wooler R.S.O.* (*Northumberland*).
1927	*Russell, Sir John, D.Sc., F.R.S., *Rothamsted Experimental Station, Harpenden, Herts.*
1923	Sample, C. H., 26 *St. Mary's Place, Newcastle-on-Tyne* (*Northumberland*).
1928	Smith, Col. Abel Henry, *Woodhall Park, Hertford* (*Hertfordshire*).
1907	Smith, Fred, *Deben Haugh, Woodbridge* (*Suffolk*).
1929	Stanley, Lord, M.C., M.P., *Knowsley, Prescot* (*Lancashire*).
1912	Strachie, Lord, *Sutton Court, Pensford* (*Somerset*).
1929	Strafford, Earl of, *Wrotham Park, Barnet* (*Middlesex*).
1923	Tanner, E. Craig, *Eyton-on-Severn, Wroxeter* (*Shropshire*).
1920	Thornton, F. H., *Kingsthorpe Hall, Northampton* (*Northants*).
1930	Treowen, Maj.-Gen. Lord, C.B., C.M.G., *Llanarth Court, Raglan* (*Monmouthshire*).
1924	Wakefield, Jacob, *Sedgwick House, Kendal* (*Westmorland*).
1926	Webb, Frank, *Billington Estate Office, Leighton Buzzard* (*Bedfordshire*).
1929	Webb, S. Owen, *Streetly Hall, West Wickham* (*Cambridgeshire*).
1925	Weigall, Lt.-Col. Sir Archibald G., K.C.M.G., *Petwood, Woodhall Spa* (*London*).
1889	Wheeler, Col. E. Vincent V., *Newnham Court, Tenbury* (*Worcs*).
1918	Wickham-Boynton, T. L., *Burton Agnes Hall, Driffield* (*Yorks, E. Riding*).
1926	Wright. Robert, *Beckfield, Heighington, Lincoln* (*Lincolnshire*).

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* Nominated Members of Council.

STANDING COMMITTEES.

⁂ Under Bye-Law 73, the President is a Member *ex officio* of all Committees, and the Trustees and Vice-Presidents are Members *ex officio* of all Standing Committees except the Committee of Selection and General Purposes.

The Honorary Director is a Member ex officio of all Committees.

Finance Committee.

Adeane, C. (*Chairman*)
Devonshire, Duke of
Cornwallis, Lord
Daresbury, Lord
Burrell, Sir Merrik R.
Courthope, Sir G. L.
Burke, U. Roland
Crutchley, Percy
Greaves, R. M.
Harrison, W.
Mansell, Alfred
Paget, L. C.
Wheeler, Col.

Journal and Education Committee.

Cornwallis, Lord (*Chairman*)
FitzWalter, Lord
Mildmay of Flete, Lord
Burrell, Sir Merrik R.
Courthope, Sir G. L.
Hazlerigg, Sir A. G.
Russell, Sir John
Adeane, C.
Brocklebank, Rev. C. H.
Burkitt, W.
Dampier-Whetham, W. C. D.
Mansell, Alfred
Neame, T.
Price, F. Hamlyn
Wheeler, Col.

Chemical Committee.

Brocklehurst, H. D. (*Chairman*)
Harlech, Lord
Russell, Sir John
Burkitt, W.
Dampier-Whetham, W.C.D.
Falconer, J.
Gates, B. J.
Greaves, R. M.
Hale, W. E.
Macdonald, C. J. B.
Neilson, R. B.
Oliver-Bellasis, Capt. R.
Rea, G. G.
Sample, C. H.
Smith, Fred

Botanical and Zoological Committee.

Hastings, Lord (*Chairman*)
Cornwallis, Lord
FitzWalter, Lord
Courthope, Sir G. L.
Hazlerigg, Sir A. G.
Ackers, C. P.
Ashton, T. W.
Brocklehurst, H. D.
Christy, Capt. H. A.
Le Sueur, A. D. C.
Loyd, A. T.
Neame, T.
Wheeler, Col.

Veterinary Committee.

Burrell, Sir Merrik R. (*Chairman*)
Folkestone, Viscount
Hastings, Lord
Mildmay of Flete, Lord
Strachie, Lord.
Parker, Hon. C. T.
Cotterell, Sir John
Gilbey, Sir Walter
Weigall, Sir A. G.
Ashton, T. W.
Behrens, Major Clive
Bell, John
Burke, U. Roland
Buxton, Capt. H. G.
Crutchley, Percy
Fenwick, E. Guy
Gates, B. J.
Harris, Joseph
Hobday, Prof. F. T. G.
Johnstone, Capt. G. H.
Mansell, Alfred
Matthews, F. P.
Smith, Fred
Stanyforth, Lt.-Col.
Tanner, E. C.
Thornton, F. H.

Committee of Selection and General Purposes.

Daresbury, Lord (*Chairman*)
The President
Desborough, Lord
Harlech, Lord
Mildmay, Lord
Courthope, Sir G. L.
Greaves, R. M.
Wheeler, Col.

And the Chairman of each of the Standing Committees.

Research Committee.

Devonshire, Duke of (*Chairman*)
Folkestone, Viscount
Cornwallis, Lord
Hastings, Lord
Burrell, Sir Merrik R.
Russell, Sir John
Weigall, Sir A. G.
Adeane, C.
Burkitt, W.
Buxton, Capt. H. G.
Dampier-Wetham, W.C.D.
Greaves, R. M.
Matthews, R. B.
Neame, T.
Smith, F.
Wigan, Capt. D. G.

Stock Prizes Committee.

Burke, U. R. (*Chairman*)
Daresbury, Lord
Burrell, Sir Merrik R.
Cotterell, Sir John
Behrens, Major Clive
Bell, John
Brocklebank, Rev. C. H.
Burkitt, W.
Buxton, Capt. H. G.
Crutchley, Percy
Dudgeon, Major C. R.
Evens, John
Everard, W. L.
Fenwick, E. Guy
Forshaw, T.
Greaves, R. M.
Hobbs, Robert
Loyd, A. T.
Mansell, Alfred
Mortimer, H. P.
Myatt, John;
Neilson, R. B.
Paget, L. C.
Rea, G. G.
Smith, Fred
Tanner, E. C.
Webb, Frank
Wickham-Boynton, T. L.
The Stewards of Live Stock

Judges Selection Committee.—*Same as Stock Prizes Committee.*

Implement Committee.

Stanyforth, Lt.-Col. E. W. (*Chairman*)
Courthope, Sir G. L.
Burke, U. R.
Burkitt, W.
Buxton, Capt. H. G.
Crutchley, Percy
Evens, John
Falconer, J.
Garrett, Col.
Gates, B. J.
Greaves, R. M.
Harrison, W.
Matthews, R. B.
Myatt, John
Ransome, E. C.
Sample, C. H.
Wheeler, Col.
The Steward of Implements

Showyard Works Committee.

Daresbury, Lord (*Chairman*)
Burrell, Sir Merrik R.
Hazlerigg, Sir A. G.
Bell, John
Burke, U. Roland
Burkitt, W.
Crutchley, Percy
Hall, J. H.
Neilson, R. B.
Paget, L. C.
Rea, G. G.
Sample, C. H.
Stanyforth, Lt.-Col.

Dairy and Produce Committee.

Burkitt, W. (*Chairman*)
FitzWalter, Lord
Strachie, Lord
Burrell, Sir Merrik R.
Weigall, Sir A. G.
Ashton, T. W.
Crutchley, Percy
Dampier-Whetham, W.C.D.
Evens, John
Greaves, R. M.
Hale, W. E.
Johnstone, Capt. G. H.,
Oliver-Bellasis, Capt. R.
Wheeler, Col.
Williams, Prof. R. Stenhouse

Horticultural Committee.

Hazlerigg, Sir A. G. (*Chairman*)
Daresbury, Lord
Eastwood, A.

General Manchester Committee.

The Whole Council, with the following representatives of the Local Committee :—

The Lord Mayor of Manchester
Bullock, W. D.
Davy, Alderman W.
Ellis, Francis
Stockton, Sir Edwin
Howell, F. E. Warbreck (*Town Clerk*) and J. Herbert Hall (*Hon. Local Secretaries*)

Honorary Director.—Lord Daresbury, C.V.O.

Secretary.—T. B. Turner, 16 Bedford Square, W.C.1.

Editor of Journal—C. J. B. Macdonald, *West End Farm, Cheddington, Leighton Buzzard.*

Consulting Chemist.—Dr. J. Augustus Voelcker, M.A., 1 *Tudor St., E.C.4.*

Consulting Veterinary Surgeon.—Prof. F. T. G. Hobday, C.M.G., F.R.C.V.S., *Royal Veterinary College, Camden Town, London, N.W.1.*

Botanist.—Prof. Sir R. H. Biffen, F.R.S., *School of Agriculture, Cambridge,*

Zoologist.—Cecil Warburton, M.A., *School of Agriculture, Cambridge.*

Consulting Engineer.—Dr. B. J. Owen, *Institute of Agricultural Engineering, St. Giles, Oxford.*

Surveyor.—Charles H. R. Naylor, *Smith's Bank Chambers, Derby.*

Publisher.—John Murray, 50a *Albemarle Street, W.1.*

Solicitors.—Garrard, Wolfe, Gaze & Clarke, 18 *St. James's Place, S.W.1.*

Bankers.—Westminster Bank, Ltd., 1 *St. James's Square, S.W.1.*

DISTRIBUTION OF GOVERNORS AND MEMBERS OF THE SOCIETY, AND OF ORDINARY MEMBERS OF THE COUNCIL.

Electoral District	Division	Number of Governors and Members	Number of Ordinary Members of Council	Ordinary Members of Council
A.	Bedfordshire	90	1	Frank Webb.
	Cheshire	553	3	J. H. Hall; H. P. Mortimer; R. B. Neilson.
	Cornwall	89	1	Capt. G. H. Johnstone.
	Derbyshire	242	1	U. Roland Burke.
	Dorset	108	1	A. Hiscock.
	Hampshire and Channel Islands	304	2	T. W. Ashton; J. Falconer.
	Hertfordshire	200	1	Col. Abel H. Smith.
	Lancashire and Isle of Man	401	2	Windham E. Hale; Lord Stanley.
	Middlesex	78	1	Earl of Strafford.
	Monmouthshire	109	1	Maj.-Gen. Lord Treowen.
	Norfolk	353	2	Capt. H. G. Buxton; Lord Hastings.
	Northamptonshire	203	1	F. H. Thornton.
	Northumberland	301	2	G. G. Rea; C. H. Sample.
	Staffordshire	254	1	John Myatt.
	Worcestershire	177	1	Col. E. V. V. Wheeler.
	Yorkshire, N.R.	318	1	Major Clive Behrens; John Bell.
	Scotland	325	2	Major C. R. Dudgeon; Earl of Elgin and Kincardine.
		—4,105	—25	
B.	Buckinghamshire	176	1	B. J. Gates.
	Devon	181	1	Lord Mildmay of Flete.
	Durham	190	1	W. Burkitt.
	Essex	268	1	Sir Walter Gilbey.
	Herefordshire	177	1	Sir John R. G. Cotterell.
	Leicestershire	225	1	W. Lindsay Everard.
	London	517	3	F. P. Matthews; F. Hamlyn Price; Lieut.-Col. Sir A. G. Weigall.
	Nottinghamshire	229	1	Thomas Forshaw.
	Rutland	45	1	E. Guy Fenwick.
	Shropshire	343	2	Alfred Mansell; E. Craig Tanner.
	Suffolk	253	1	Fred Smith.
	Surrey	225	1	R. Borlase Matthews.
	Wiltshire	189	1	Viscount Folkestone.
	Yorkshire, W.R.	368	2	Col. Rt. Hon. G. R. Lane-Fox; Leopold C. Paget.
	South Wales	127	1	Capt. H. A. Christy.
		—3,513	—19	
C.	Berkshire	241	1	A. T. Loyd.
	Cambridgeshire	192	1	S. Owen Webb.
	Cumberland	154	1	Joseph Harris.
	Glamorgan	97	1	Hubert Alexander.
	Gloucestershire	297	2	H. D. Brocklehurst; E. F. Fieldhouse.
	Huntingdonshire	34	1	Sir Douglas Newton.
	Kent	353	2	Lord Fitzwalter; Thomas Neame.
	Lincolnshire	355	2	John Evens; Robert Wright.
	Oxfordshire	208	1	Robert Hobbs.
	Somerset	169	1	Lord Strachie.
	Sussex	364	2	Sir Merrik R. Burrell; Col. Sir G. L. Courthope.
	Warwickshire	252	1	Capt. R. Oliver-Bellasis.
	Westmorland	96	1	Jacob Wakefield.
	Yorkshire, E.R.	127	1	T. L. Wickham-Boynton.
	Ireland	69	1	Edward Bohane.
	North Wales	278	2	Major W. Marshall Dugdale Major E. J. W. Platt.
		—3,280	—21	
Foreign Countries		238		*W. C. D. Dampier-Whetham. *Col. Frank Garrett.
Members with no Addresses		28	4	*E. C. Ransome. *Sir John Russell.
Grand Totals		11,170	69	

* Nominated Members of Council.

TABLE SHOWING THE NUMBER OF GOVERNORS AND MEMBERS IN EACH YEAR FROM THE ESTABLISHMENT OF THE SOCIETY.

Year	President of the Year	Governors		Members			Total
		Life	Annual	Life	Annual	Honorary	
1839	3rd Earl Spencer	—	—	—	—	—	1,100
1840	5th Duke of Richmond	86	189	146	2,434	5	2,860
1841	Mr. Philip Pusey	91	219	231	4,047	7	4,595
1842	Mr. Henry Handley	101	211	328	5,194	15	5,849
1843	4th Earl of Hardwicke	94	209	429	6,155	15	6,902
1844	3rd Earl Spencer	95	214	442	6,161	15	6,927
1845	5th Duke of Richmond	94	198	527	5,809	15	6,738
1846	1st Viscount Portman	92	201	554	6,105	19	6,971
1847	6th Earl of Egmont	91	195	607	5,478	20	6,391
1848	2nd Earl of Yarborough	93	186	648	5,387	21	6,335
1849	3rd Earl of Chichester	89	178	582	4,643	20	5,512
1850	4th Marquis of Downshire	90	169	627	4,356	19	5,261
1851	5th Duke of Richmond	91	162	674	4,175	19	5,121
1852	2nd Earl of Ducie	93	156	711	4,002	19	4,981
1853	2nd Lord Ashburton	90	147	739	3,928	19	4,923
1854	Mr. Philip Pusey	88	146	771	4,152	20	5,177
1855	Mr. William Miles, M.P.	89	141	795	3,838	19	4,882
1856	1st Viscount Portman	85	139	839	3,896	20	4,979
1857	Viscount Ossington	83	137	896	3,933	19	5,068
1858	6th Lord Berners	81	133	904	4,010	18	5,146
1859	7th Duke of Marlborough	78	130	927	4,008	18	5,161
1860	5th Lord Walsingham	72	119	927	4,047	18	5,183
1861	3rd Earl of Powis	84	90	1,113	3,328	18	4,633
1862	H.R.H. The Prince Consort 1st Viscount Portman	83	97	1,151	3,475	17	4,823
1863	Viscount Eversley	80	88	1,263	3,735	17	5,183
1864	2nd Lord Feversham	78	45	1,343	4,013	17	5,496
1865	Sir E. C. Kerrison, Bart., M.P.	79	81	1,386	4,190	16	5,752
1866	1st Lord Tredegar	79	84	1,395	4,049	15	5,622
1867	Mr. H. S. Thompson	77	82	1,388	3,903	15	5,465
1868	6th Duke of Richmond	75	74	1,409	3,888	15	5,461
1869	H.R.H. The Prince of Wales, K.G.	75	73	1,417	3,864	17	5,446
1870	7th Duke of Devonshire	74	74	1,511	3,764	15	5,438
1871	6th Lord Vernon	72	74	1,589	3,896	17	5,648
1872	Sir W. W. Wynn, Bart., M.P.	71	73	1,655	3,953	14	5,766
1873	3rd Earl Cathcart	74	62	1,832	3,936	12	5,916
1874	Mr. Edward Holland	76	58	1,944	3,756	12	5,846
1875	1st Viscount Bridport	79	79	2,058	3,918	11	6,145
1876	2nd Lord Chesham	83	78	2,164	4,013	11	6,349
1877	Lord Skelmersdale	81	76	2,239	4,073	17	6,486
1878	Col. Kingscote, C.B., M.P.	81	72	2,328	4,130	26	6,637
1879	H.R.H. The Prince of Wales, K.G.	81	72	2,453	4,700	26	7,332
1880	9th Duke of Bedford	83	70	2,673	5,083	20	7,929
1881	Mr. William Wells	85	69	2,765	5,041	19	7,979
1882	Mr. John Dent Dent	82	71	2,849	5,059	19	8,080
1883	6th Duke of Richmond and Gordon	78	71	2,979	4,952	19	8,099
1884	Sir Brandreth Gibbs	72	72	3,203	5,408	21	8,776
1885	Sir Massey Lopes, Bart., M.P.	71	69	3,356	5,619	20	9,135
1886	H.R.H. The Prince of Wales, K.G.	70	61	3,414	5,569	20	9,134
1887	Lord Egerton of Tatton	71	64	3,440	5,387	20	8,982
1888	Sir M. W. Ridley, Bart., M.P.	66	56	3,521	5,225	16	8,884
1889	HER MAJESTY QUEEN VICTORIA	73	53	3,567	7,158	15	10,866
1890	Lord Moreton	122	58	3,846	6,941	17	10,984
1891	2nd Earl of Ravensworth	117	60	3,811	6,921	19	10,928
1892	1st Earl of Feversham	111	69	3,784	7,066	20	11,050
1893	1st Duke of Westminster, K.G.	107	74	3,786	7,138	21	11,126
1894	8th Duke of Devonshire, K.G.	113	78	3,798	7,212	22	11,218
1895	Sir J. H. Thorold, Bart.	120	80	3,747	7,179	23	11,149
1896	Sir Walter Gilbey, Bart.	126	83	3,695	7,253	23	11,180
1897	H.R.H. The Duke of York, K.G.	126	83	3,705	7,285	24	11,223
1898	5th Earl Spencer, K.G.	121	79	3,687	7,182	25	11,094
1899	Earl of Coventry	116	75	3,656	7,009	23	10,879
1900	H.R.H. The Prince of Wales, K.G.	111	71	3,628	6,832	24	10,666
1901	3rd Earl Cawdor	102	70	3,564	6,338	27	10,033
1902	H.R.H. Prince Christian, K.G.	100	69	3,500	5,955	26	9,650
1903	H.R.H. The Prince of Wales, K.G.	99	62	3,439	5,771	27	9,398
1904	16th Earl of Derby, K.G.	96	68	3,375	5,906	32	9,477
1905	9th Lord Middleton	89	78	3,212	5,758	33	9,170
1906	Mr. F. S. W. Cornwallis	94	155	3,132	6,189	30	9,600
1907	4th Earl of Yarborough	91	174	3,076	6,299	29	9,669
1908	9th Duke of Devonshire	89	178	3,019	6,442	30	9,758
1909	7th Earl of Jersey, G.C.B.	91	177	2,951	6,696	31	9,946
1910	Sir Gilbert Greenall, Bart.	86	166	2,878	6,934	31	10,095
1911	HIS MAJESTY KING GEORGE V.	85	168	2,805	7,191	30	10,279
1912	9th Lord Middleton	85	170	2,741	7,283	30	10,309

TABLE SHOWING THE NUMBER OF GOVERNORS AND MEMBERS IN EACH YEAR FROM THE ESTABLISHMENT OF THE SOCIETY—*contd.*

Year	President of the Year	Governors		Members			Total
		Life	Annual	Life	Annual	Honorary	
1913	2nd Earl of Northbrook	89	168	2,691	7,474	26	10,448
1914	4th Earl of Powis	89	173	2,626	7,629	28	10,545
1915	Duke of Portland, K.G. [K.G.	88	184	2,517	7,313	28	10,130
1916	7th Duke of Richmond and Gordon,	83	185	2,427	7,526	27	10,248
1917	Mr. Charles Adeane, C.B.	93	210	2,412	8,214	26	10,955
1918	Hon. Cecil T. Parker	102	224	2,395	8,226	25	10,972
1919	Sir J. B. Bowen-Jones, Bart.	119	236	2,411	8,558	24	11,348
1920	H.R.H. The Prince of Wales, K.G.	129	256	2,402	9,208	25	12,020
1921	Mr. R. M. Greaves	137	275	2,374	10,098	24	12,908
1922	H.R.H. The Duke of York, K.G.	144	287	2,317	10,596	22	13,366
1923	Lt.-Col. E. W. Stanyforth	153	293	2,262	10,778	20	13,506
1924	Mr. Ernest Mathews, C.V.O.	159	289	2,201	10,676	21	13,346
1925	Sir Gilbert Greenall, Bart., C.V.O.	158	291	2,160	10,949	15	13,573
1926	Lord Desborough, G.C.V.O.	155	276	2,103	10,251	15	12,800
1927	Viscount Tredegar, C.B.E.	153	257	2,035	9,343	15	11,803
1928	Lord Harlech, C.B.	155	277	1,972	9,042	16	11,462
1929	Earl of Harewood, K.G.	154	273	1,914	8,813	16	11,170

STATEMENT made to the Council by the Chairman of the Finance Committee, on presenting the Accounts for the year 1929.

Mr. ADEANE said that he was glad to be able to lay before the Council a very satisfactory statement of accounts. He knew that the Council would not care to be troubled with a mass of figures, so he would endeavour to condense them as much as possible. The total receipts in 1929 amounted to £26,167, which was made up in the following manner: Balance brought forward from 1928, £3,901; ordinary receipts, £18,185; and other receipts, £4,081. On the payments side the ordinary expenditure was £15,455, investments and other sums amounted to £7,624, making a total of £23,079. The balance carried forward was £3,088. The only unsatisfactory item was the fall in the annual subscriptions of £225, and about this he would like to say something later.

With regard to the balance-sheet, the capital and reserve fund at the end of 1929 was £152,131. The invested reserve fund stood at £140,294, and showed an increase of £12,670. But for the fall in market values, due to the general slump at the end of the year, this fund would have stood much higher, as the Society had invested £20,000 in 1929. The depreciation in investment values amounted to £7,812, a temporary reduction which need not alarm them in any way. Gilt-edged securities were already on their way back to their former level.

Turning to the estimate for 1930, the income was estimated at £18,235 and the expenditure at £17,755. The Society expected to have to spend £1,200 on the reprinting of Fream's "Elements of Agriculture" and £500 on the Agricultural Tractor Trials, as well as £200 on repairs to the house during the year. The estimated balance for the coming year was £480.

The detailed estimates were as follows :—

Actual figures for 1929.		Estimate for 1930.
£	*Receipts.*	£
10,910	Subscriptions of Governors and Members (including part subscriptions in respect of Special Show privileges)	10,605
615	Interest on Daily Balances and Deposit Account	450
5,982	Interest on Investments	6,513
209	Sales of Journals, Text Books, Pamphlets, etc.	200
225	Advertisements in Journal	225
52	Income Tax refunded	52
129	N.D.D. Entry Fees, etc.	130
63	Hire of Council and Committee Rooms	60
18,185		18,235
£	*Expenditure.*	£
4,262	Salaries :—Secretary and Official Staff	4,262
288	Pensions to Officials	288
843	Rent, Lighting, Cleaning, Wages, etc. (say)	850
467	Printing and Stationery	550
187	Postages and Telegrams	190
196	Miscellaneous	200
1,609	Journal	1,600
412	Chemical Department	420
250	Botanical Department	250
200	Zoological Department	200
402	Veterinary Department	400
100	Grant to Research Institute, Reading University	100
100	Consulting Engineer	100
418	Examinations for National Diplomas	350
3,500	Amount set aside towards loss on Shows	3,500
13,234		13,260
£	*Exceptional Expenditure.*	£
1,728	Scientific Research	2,000
—	Painting and Repairs to Society's House and Council Chamber	200
25	Repairs to Society's Furniture	50
59	Library : Binding and Purchase of Books	100
250	Legal Charges and Auditors' Fees (say)	300
17	Certificates and Medals for Long Service and Skilled Labour	20
56	*Installing new Inter-Office 'Phones*	—
—	"Elements of Agriculture"	1,200
—	Grant *re* Agricultural Tractor Trials	500
—	Providing new Wash Basins (say)	75
86	Printing "Occasional Notes," Booklets, etc.	50
15,455		17,755

Estimated Receipts	£18,235
Estimated Expenditure	17,755
Estimated Surplus of Receipts over Expenditure	£480

He would say one word with regard to the membership, which was really a matter for serious consideration. In 1922 the Society's income from members' subscriptions amounted to £13,212. In 1929 the income from that source was only £11,791, a loss in that year of £1,421 as compared with 1922. If the Society had not been able to add to its invested fund the position to-day would have been very serious indeed. The membership of the Society was now shrinking at the rate of nearly 300 members a year. He was sure that all would agree that the basis of the prosperity of the Society was its membership, and he would like to appeal to all the members of the Council to do everything they could in their different districts to assist the President in his endeavour to increase the membership, so that at the end of his term of office the results in that direction would be satisfactory.

STATEMENT OF RECEIPTS AND EXPENDI-

JULY 9 to

Corresponding figures for 1928. £	**Receipts.**	£	s.	d.	£	s.	d.
2,000	Subscription from the Borough of Harrogate				2,000	0	0
2,091	Prizes given by Agricultural and Breed Societies and others .	2,180	3	0			
1,441	Prizes given by Harrogate Local Committee	1,440	0	0	3,620	3	0
3,532							
12	Contributions to Show Fund				16	19	0
	FEES FOR ENTRY OF IMPLEMENTS, ETC. :—						
12,931	Implement Exhibitors' payments for Shedding and Space	11,918	8	9			
234	Non-Members' Fees for entry of Implements, etc. . .	234	0	0			
80	Fees for entry of "New Implements"	150	0	0	12,302	8	9
13,245							
	FEES FOR ENTRY OF LIVE STOCK :—						
5,178	1,791 Members' Entries @ 3*l.*	5,373	0	0			
2	1 Member's Entry @ 2*l.*	2	0	0			
2,071	1,381 Members' Entries @ 30*s.*	2,071	10	0			
360	342 Members' Entries @ 1*l.*	342	0	0			
37	84 Members' Entries @ 15*s.*	63	0	0			
24	43 Members' Entries @ 10*s.*	21	10	0			
17	102 Members' Entries @ 5*s.*	25	10	0			
54	Entrance fees	55	2	0			
426	55 Non-Members' Entries @ 6*l.*	330	0	0			
138	33 Non-Members' Entries @ 3*l.*	99	0	0			
18	5 Non-Members' Entries @ 2*l.*	10	0	0			
18	8 Non-Members' Entries @ 30*s.*	12	0	0			
20	22 Non-Members' Entries @ 1*l.*	22	0	0			
11	2 Non-Members' Entries @ 10*s.*	1	0	0			
3	6 Non-Members' Entries @ 5s.	1	10	0			
—	Local Classes.	29	0	0	8,458	2	0
8,377							
	FEES FOR ENTRY OF POULTRY :—						
154	Members :—588 Entries @ 5*s.*	147	0	0			
210	Non-Members :—355 Entries @ 10*s.*	177	10	0			
15	Entrance fees	2	0	0	326	10	0
379							
	OTHER ENTRY FEES :—						
140	Produce	140	0	0			
131	Horse-jumping Competitions	142	0	0			
32	Plantations Competition	35	17	6			
13	Orchards and Fruit Plantations Competition	13	10	0			
—	Butter Making Competition	17	2	6	348	10	0
316							
	CATALOGUE :—						
21	Extra lines for particulars of Implement exhibits . .	17	18	0			
6	Woodcuts of "New Implements"	1	12	6			
1,129	Advertising in Catalogue	1,053	3	4			
38	Sales of Implement Section of Catalogue	31	4	9			
937	Sales of Combined Catalogue	1,161	18	8			
55	Sales of Jumping Programmes and Awards . . .	70	5	9			
2,186		2,336	3	0			
74	*Less* :—Expenses of Sales Superintendent and Assistants .	42	18	8	2,293	4	4
2,112							
£29,973	Carried forward .				£29,365	17	1

TURE OF THE SHOW AT HARROGATE, JULY 13, 1929.

Expenditure.

Corresponding figures for 1928. £	Expenditure	£	s.	d.	£	s.	d.
	COST OF ERECTION AND MAINTENANCE OF SHOWYARD:—						
3,909	Transferring Society's permanent buildings from Nottingham to Harrogate (including taking down and re-erecting)	3,671	8	3			
1,111	Fencing round Showyard	945	19	5			
3,878	Implement Shedding	2,773	16	0			
7,708	Stock Shedding	7,583	17	2			
534	Poultry and Produce Sheds	489	5	0			
666	Dairy	647	11	9			
138	Fodder Shed and Office	105	0	6			
282	Education and Forestry	297	6	1			
875	Grand Stand and Large Ring	841	12	2			
1,000	Various Offices and Stands	954	6	10			
371	Painting Signs and Fixing Ditto, Fencing and Judging Rings	293	3	9			
97	Insurance	94	12	9			
2,853	Hire of Canvas	2,834	2	6			
1,561	General Labour (including Society's Clerk of Works) and Horse Hire	1,534	14	5			
53	Bee Shed	50	15	0			
—	Extra Entrance	69	0	2			
32	*Clean Milk Demonstration*		—				
107	Horse-Shoeing Shed	103	19	7			
428	*Additional Packing and Levelling for Buildings*		—				
25,603		23,290	11	4			
38	Less 75 Flagpoles @ 10s.	37	10	0			
					23,253	1	4
25,565							
	SURVEYOR:—						
556	Salary, £500; Travelling Expenses to London, etc., £25 4s. Clerk, £10 10s.; Petty Expenses, £17 9s. 4d.				553	3	4
	PRINTING:—						
640	Printing of Prize Sheet, Entry Forms, Admission Orders, Circulars to Exhibitors, Prize Cards, Tickets and Miscellaneous (including stationery)	682	16	3			
43	Programmes for Members	47	13	6			
964	Printing of Catalogues	911	6	2			
223	Binding of Catalogues	224	11	0			
22	Carriage of Catalogues	83	2	2			
85	Printing Awards	76	16	3			
25	Programmes of Jumping Competitions	18	4	0			
					1,994	9	4
2,002							
	ADVERTISING:—						
263	Advertising Closing of Entries in Newspapers	223	4	9			
525	Advertising Show in Newspapers	750	1	0			
645	Billposting	794	11	2			
98	Printing of Posters	223	12	0			
					1,991	8	11
1,531							
	POSTAGE, CARRIAGE, &c.:—						
201	General Postage	232	15	11			
64	Postage of Badges to Members	62	6	0			
15	Carriage of Luggage, etc.	25	13	0			
					320	14	11
280							
	AMOUNT OF PRIZES AWARDED,						
11,655	(including £3,620 3s. 0d. given by various Societies and Harrogate Local Committee)				12,362	10	6
	COST OF FORAGE FOR LIVE STOCK:—						
1,435	Hay, £320 15s. 9d.; Straw, £632 7s. 3d.; Green Food, £473 14s.				1,426	17	0
	JUDGES' FEES AND EXPENSES:—						
603	Judges of Miscellaneous Implements, £19 8s. 10d.; Horses, £71 13s. 4d.; Cattle, £204 16s. 1d.; Sheep, £187 3s. 8d.; Pigs, £64 5s. 0d.; Produce, £42 18s. 4d.; Goats, £4 18s. 11d.; Luncheons, £75 10s.				670	14	2
53	Badges for Judges and other officials				49	4	5
75	Rosettes				72	5	1
£43,755	Carried forward				£42,694	9	0

STATEMENT OF RECEIPTS AND EXPENDITURE

Corresponding figures for 1928. £	**Receipts** *(contd.)*.	£	s.	d.	£	s.	d.
29,973	Brought forward				29,365	17	1
	MISCELLANEOUS RECEIPTS :—						
1,274	Admissions to Flower Show	2,233	4	0			
1,087	Garage	2,298	17	0			
148	Rent for Railway Offices	185	0	0			
75	Premium for Cloak Rooms	75	0	0			
233	Rent for Ministry of Agriculture Pavilion	232	10	0			
323	Advertisements in Stock Prize Sheet	370	0	11			
—	Admissions to Hound Show	67	0	6			
4	Miscellaneous	6	6	0			
7	*Bath Chairs*	—					
—	Contribution to cost of "Musical Ride"	150	0	0	5,617	18	8
3,151							
	ADMISSIONS TO SHOWYARD :—						
1,183	Tuesday, July 9, @ 10*s*..	1,873	14	6			
4,477	Wednesday, July 10, @ 5*s*.	5,601	0	9			
6,489	Thursday, July 11, @ 3*s*..	7,221	11	1			
2,170	Friday, July 12, @ 3*s*.	2,682	1	2			
1,387	Saturday, July 13, @ 1*s*.	1,211	16	6			
188	Season Tickets and Local Subscribers' Badges	1,653	10	0			
500	Day Tickets	1,274	6	8	21,518	0	5
16,394							
	ENTRANCES TO HORSE RING :—						
262	Wednesday, July 10	261	13	0			
295	Thursday, July 11	253	9	3			
123	Friday, July 12	218	10	0			
83	Saturday, July 13	187	12	0			
663	Tickets sold for Reserved Enclosure	952	9	0	1,873	13	3
1,426							
	SALES :—						
146	Sales of Produce at Dairy				185	17	4
1,090					58,561	6	9
6	Outstanding Receipts in respect of Nottingham Show				38	11	11
£51,096					£58,599	18	8

Examined, audited, and found correct, this 19th day of November, 1929.

T. B. TURNER, Secretary.
PRICE, WATERHOUSE & CO.,
Chartered Accountants.

OF THE SHOW AT HARROGATE (*continued*):

Corresponding figures for 1928.	Expenditure (*contd.*).	£	s.	d.	£	s.	d.
£43,755	Brought forward				42,694	9	0
	GENERAL ADMINISTRATION :—						
177	*Stewards* :—Personal and Railway Expenses	216	16	0			
315	*Assistant Stewards* :—Personal and Railway Expenses	305	5	3			
474	*Official Staff* :—Extra Clerks, £193 14*s.* 4*d.*; Lodgings, £51 8*s.* 0*d.*; Maintenance of Staff, £63 12*s.* 6*d.*; Travelling Expenses, £21 0*s.* 11*d.*; Secretary's Hotel and Travelling Expenses (including Honorary Director's Expenses), £191 14*s.* 2*d.*	521	9	11			
206	*Finance Office* :—Finance Clerk, £11 2*s.* 0*d.*; Grand Stand Men, £66 3*s.* 0*d.*; Turnstile Men, £57 0*s.* 0*d.*; Bank Clerks, £61 10*s.*; Hire of Car, £10 10*s.*; Refreshments, £15 7*s.* 6*d.*	221	12	6			
80	*Awards Office* :—Clerks, £60 9*s.* 1*d.*; Boys, £4 7*s.* 8*d.*	64	16	9			
1,252					1,330	0	5
	General Management :—						
186	Foremen and Assistant Foremen	164	3	0			
77	Yardmen	80	11	9			
189	Door and Gate Keepers	242	12	11			
130	*Garage* :—Tents, etc.	15	18	0			
114	*Veterinary Department* :—Veterinary Inspectors	121	18	5			
110	*Engineering Department* :—Consulting Engineer	110	0	0			
1,146	*Police* :—Metropolitan and County Police, £1,120 12*s.* 8*d.*; Commissionaires, £28 10*s.* 0*d.*; Refreshments, £1 18*s.* 0*d.*	1,151	0	8			
1,952					1,886	4	9
933	*Dairy* :—Staff, £253 1*s.* 9*d.*; Milk, £197 16*s.* 6*d.*; Ice, £16 6*s.*; Utensils, £77 1*s.* 9*d.*; Engineers, £112 1*s.* 11*d.*; Butter Tests, £31 18*s.* 11*d.*; Labour, £11 12*s.* 10*d.*; Milk Analysis, £13; Butter and Cheese Boxes, £5 0*s.* 9*d.*; Refreshments, £25 9*s.* 8*d.*; Fuel, £3 11*s.* 10*d.*; Miscellaneous, £9 1*s.* 2*d.*	756	3	1			
9	*Analysis of Cider*	9	10	0			
97	*Poultry* :—Penning and Feeding, £33 8*s.* 0*d.*; Carriage, £15 3*s.* 6*d.* Judges, £39 0*s.* 8*d.*	87	12	2			
1,039					853	5	3
681	*Flower Show* :—Hire of Tents, £456 8*s.* 0*d.*; Judges, £24 7*s.* 1*d.*; Wages, £50; Medals, £55 17*s.*; Labour, £36 17*s.* 6*d.*; Carriage and Cartage, £29 13*s.* 3*d.*; Miscellaneous, £16 9*s.* 4*d.*				669	12	2
89	Plantations Competition				101	9	6
74	Orchards and Fruit Plantations Competition				75	2	1
—	"Musical Ride"				478	4	8
—	Hound Show				354	18	9
	GENERAL SHOWYARD EXPENSES :—						
290	Band	175	0	0			
350	Hire of Furniture	384	16	11			
29	Telephone and Call Boxes	55	3	10			
23	Telegraph Facilities	2	0	0			
114	Official Luncheons	57	19	0			
65	St. John Ambulance	60	1	2			
11	Billposting in Showyard	23	9	6			
15	Medals	22	10	6			
38	Engraving and forwarding Cups	37	10	6			
14	Plans and Maps	15	3	6			
65	Education and Forestry	60	9	0			
8	Tan	7	14	2			
247	Sleepers	229	18	4			
29	Hire of Tents and Marquee	25	3	6			
20	Weighbridge: Carriage and Erection Charges	20	3	6			
20	*Bath Chairs*		—				
96	Miscellaneous	138	12	0			
23	Gas, Coal and Firewood	33	4	2			
69	*Charges for Mowing*		—				
1,526					1,348	19	7
6	Outstanding accounts from Nottingham Show				11	19	11
50,374					£49,804	6	1
722	Credit Balance				8,795	12	7
£51,096					£58,599	18	8

Credit balance (as above)	£8,795	12	7
Add Contribution from Ordinary Account to Show Fund	3,500	0	0
	£12,295	12	7

Receipts.

Figures for 1928. £		£	s.	d.	£	s.	d.	£	s.
	CASH AT BANKERS AND IN HAND, JANUARY 1, 1929:—								
15	Reserve Fund Account				1,031	0	0		
236	Current Account				2,313	5	6		
—	University Grant Account				382	19	9		
168	Cash in Hand				173	18	10		
419								3,901	4
	ANNUAL SUBSCRIPTIONS:—								
1,532	*Governors'* for 1929	1,513	5	0					
9,340	*Members'* for 1929	9,143	5	3					
57	Subscriptions for previous years . . .	50	8	0					
	LIFE GOVERNORS AND MEMBERS:—								
25	Annual Contributions	22	7	0					
10,954					10,729	5	3		
	MISCELLANEOUS:—								
5,538	Interest on Investments	5,982	11	1					
386	Interest on Daily Balances and Deposit Account . .	614	11	8					
52	Income Tax repaid	52	4	6					
47	Sales of Pamphlets, Farm Account Books, etc. . .	49	14	10					
1	Sales of Library Catalogue	0	17	6					
59	Sales of Text Books	67	7	1					
92	Sales of Journals	91	8	1					
241	Advertisements in Journal	224	13	9					
137	N.D.D.: Entry Fees and Sales of Exam. Papers . .	128	18	7					
49	Hire of Council and Committee rooms	63	0	0					
—	Yorkshire Agricultural Society: *re* their New Members' privileges for 1929 Show	181	0	0					
6,602					7,456	7	1		
17,556	Total of Ordinary Receipts							18,185	12
1,016	Life Compositions of Governors and Members . .				905	0	0		
104	Donations to Society's Funds				104	11	0		
159	Subscriptions for 1930				157	4	0		
284	Cash received in respect of payments to Willesden Urban District Council				293	16	3		
5	Show Account: for amount owing on Dec. 31, 1928 .				1	4	1		
51	*Amount realised on Sale of Plant*					—			
—	Rent 12 Hanover Square (less amount paid by Society).				82	10	0		
—	Liquidation of Park Royal Estates, Ltd. . . .				2,536	9	3		
1,619								4,080	14
£19,594								£26,167	11

PAYMENTS FOR THE YEAR 1929.

Payments.

Figures for 1928. £		£ s. d.	£ s. d.	£ s. d.
	GENERAL ADMINISTRATION :—			
4,146	Salaries : Secretary and Official Staff (including clerical assistance)	4,262 2 9		
290	Pensions to Officials	287 11 8		
290	Legal Charges and Auditors' Fees	249 16 11		
866	Rent, Rates, Taxes, Insurance and House Expenses	843 0 5		
605	Printing and Stationery	467 2 0		
150	Postage and Telegrams	187 2 2		
192	Advertising and Miscellaneous Office Expenses	186 5 4		
6,539			6,483 1 3	
	JOURNAL OF THE SOCIETY :—			
	Cost of Volume 89 :—			
995	Printing and Binding	949 5 5		
294	Postage	291 4 10		
280	Editing and Literary Contributions	354 1 0		
10	Illustrations	14 4 3		
1,579			1,608 15 6	
10	Advertising Farm Account Books		9 12 6	
	LABORATORY :—			
413	Salary and Petty Cash		412 4 0	
	OTHER SCIENTIFIC DEPARTMENTS :—			
250	Botanist's Salary	250 0 0		
200	Zoologist's Salary	200 0 0		
100	Consulting Engineer	100 0 0		
420	Grant to Royal Veterinary College	400 0 0		
100	Grant to Research Institute, Reading	100 0 0		
3	Medal for Proficiency in Cattle Pathology	1 18 6		
1,073			1,051 18 6	
	NATIONAL DIPLOMA IN AGRICULTURE :—			
308	Honoraria and Expenses of Examiners	291 12 9		
83	Travelling Expenses of Officials	97 3 2		
126	Hotel Expenses of Examiners and Officials	107 16 8		
113	Printing, Stationery, Diplomas and Postage	64 18 4		
7	Hire of Premises	7 0 0		
75	Salary for Assistant	75 0 0		
712		643 10 11		
511	*Less* Entry Fees and Sales of Examination Papers	493 2 5		
201		150 8 6		
100	*Less* amount paid by Highland and Agricultural Society	75 5 2		
101			75 3 4	
	NATIONAL DIPLOMA IN DAIRYING :—			
124	Honoraria and Expenses of Examiners	147 11 2		
44	Hotel and Travelling Expenses	51 12 2		
38	Printing, Diplomas, Postage, etc.	101 19 7		
48	Hire of Premises and Milk Account	41 7 1		
	(For Entry Fees, and Sales of Exam. Papers, see contra.)		342 10 0	
254				
	EXTRA EXPENDITURE :—			
1,617	Grant to Research Fund	1,727 16 8		
32	Library : Binding and Purchase of Books	59 7 9		
50	*Grant to Joint Committee of British Live Stock Breeders*	—		
57	Repairs to Furniture	25 9 10		
4	Certificates and Medals for Long Service	17 5 9		
—	Printing Farm Account Books	30 0 0		
189	*Reprinting Fream's "Elements of Agriculture"*	—		
24	Printing "Occasional Notes"	25 4 9		
—	Printing "Lambing Pen"	30 12 0		
—	Installing new inter-office 'phones	56 3 6		
1,973			1,972 0 3	
3,500	Amount set aside towards Loss on Shows		3,500 0 0	
15,442	Total of Ordinary Payments			15,455 5 4
—	Argentine Rural Society (recoverable)		66 13 9	
225	Payments to Willesden Urban District Council		583 12 2	
—	Transfer to Deposit Account		2,704 7 5	
—	Purchase of 5 per cent. War Stock		1,777 18 0	
—	Purchase of 5 per cent. Conversion Stock		2,481 4 0	
25	*Additions to Show Plant*		—	
1	Postage, etc., *re* Show Account		8 16 10	
—	Refund of Subscription paid in advance		1 0 0	
251				7,628 12 2
	CASH AT BANKERS AND IN HAND, DECEMBER 31, 1929 :—			
1,031	Reserve Fund Account		198 0 0	
2,313	Current Account		2,056 10 3	
383	University Grant Account		655 3 1	
174	Cash in Hand		179 0 2	
3,901				3,088 13
£19,594				£26,167 11 0

Dr. BALANCE SHEET,

Figures for 1928. £		£	s.	d.	£	s.	d.	£	s.	d
	To SUNDRY CREDITORS—									
2,803	Sundry accounts owing				2,425	12	2			
159	Subscriptions received in 1929 but belonging to 1930				157	4	0			
2,962								2,582	16	
	To CAPITAL and RESERVE FUND:—									
131,581	As at December 31, 1928.				141,896	6	2			
	SHOW FUND—									
722	Surplus on Harrogate Show	8,795	12	7						
3,500	Contribution from Ordinary account	3,500	0	0						
4,222					12,295	12	7			
1,016	Life Compositions received in 1929				905	0	0			
104	Donations towards the Society's Funds				104	11	0			
150	Subscriptions for 1929 received in 1928				158	4	0			
2,115	Excess of ordinary receipts over payments for the year 1929				2,730	7	0			
—	Received on Liquidation of Park Royal Estates, Ltd.				2,536	9	3			
139,188					160,626	10	0			
(Add) 3,501	*Less* Depreciation on Investments				7,812	2	3			
142,689					152,814	7	9			
232	*Less* Adjustment in respect of outstanding Assets and Liabilities				95	1	7			
142,457					152,719	6	2			
	DEPRECIATION written off, viz.:—									
14	Fixtures	12	9	6						
33	Furniture	29	9	5						
414	Show Plant	375	5	0						
100	Lease of 16 Bedford Square	100	0	0						
—	Books	71	4	10						
561					588	8	9			
141,896								152,130	17	
£144,858								£154,713	13	

NOTE—There are commitments in respect of Contracts entered into in connection with the forthcoming Show.

T. B. TURNER,
Secretary.

DECEMBER 31, 1929. *Cr.*

Figures for 1928. £		£	s.	d.	£	s.	d.
	By RESERVE FUND—						
116,074	146,465*l.* 13*s.* 7*d.* Conversion Loan 3½ per cent. (1961) @ 74¼*	108,750	15	3			
658	500*l.* War Savings Certificates*	683	6	8			
2,551	3,909*l.* 16*s.* Local Loans 3 per cent. (1912) @ 62*	2,424	1	7			
2,400	2,840*l.* 13*s.* 6*d.* Metropolitan 3 per cent. Consolidated Stock (1941) @ 83*	2,357	15	2			
5,941	6,528*l.* 1*s.* 6*d.* Canadian 4 per cent. Stock (1940–1960) @ 88*	5,744	14	1			
—	17,794*l.* 13*s.* 2*d.* War Loan 5 per cent. (1929–1947) @ 100¼*	17,839	2	11			
—	2,500*l.* Conversion Loan 5 per cent. (1944–1964) @ 99¾*	2,493	15	0			
127,624	* Market value at December 31, 1929.				140,293	10	8
	By LEASE OF 16 BEDFORD SQUARE	800	0	0			
	Less Amount written off in 1929	100	0	0			
800					700	0	0
	By FIXTURES, FITTINGS, etc.—						
	As at December 31, 1928	166	6	10			
	Less Depreciation at 7½ per cent.	12	9	6			
166					153	17	4
	By FURNITURE—						
	As at December 31, 1928	294	14	3			
	Less Depreciation at 10 per cent.	29	9	5			
295					265	4	10
	By PICTURES (500*l.*) and BOOKS (1,071*l.* 4*s.* 10*d.*) as at December 31, 1928	1,571	4	10			
	Less Depreciation on Books	71	4	10			
1,571					1,500	0	0
	By SHOW PLANT—						
	As at December 31, 1928	3,752	10	4			
	Less Depreciation at 10 per cent.	375	5	0			
3,753					3,377	5	4
2,066	By EXPENDITURE (less amounts received) ON MANCHESTER SHOW				1,639	9	7
397	By SUNDRY DEBTORS				702	12	8
70	By RATES PAID IN ADVANCE AND INCOME TAX RECOVERABLE				67	15	4
	By CASH AT BANKERS AND IN HAND—						
	ORDINARY ACCOUNT—						
1,031	Reserve Fund Account	198	0	0			
2,313	Current Account	2,056	10	3			
383	University Grant Account	655	3	1			
4,222	Deposit Account	3,000	0	0			
174	Cash in Hand	179	0	2			
8,123		6,088	13	6			
7	*Less* Show Account—Overdrawn	74	15	8			
8,116					6,013	17	10
£144,858					£154,713	18	7

Examined, audited and found correct,

3 FREDERICK'S PLACE,
OLD JEWRY, LONDON, E.C.2.
4th February, 1930.

PRICE, WATERHOUSE & CO.,
Chartered Accountants,
Accountants & Auditors.

Royal Agricultural Society of England.

STATEMENTS OF FUNDS HELD BY THE SOCIETY IN TRUST OR WHICH ARE NOT CONSIDERED AVAILABLE FOR GENERAL PURPOSES, DECEMBER 31, 1929.

E. H. HILLS' BEQUEST.

	£	s.	d.	£	s.	d.
To amount bequeathed for Pot-culture Experiments				9,000	0	0
Less : Depreciation of Consols at time of conversion	3,582	7	11			
,, Cost of conversion	134	14	7	3,717	2	6
				5,282	17	6
To surplus on sale of 5% War Loan Stock				333	4	4
				£5,616	1	10

	£	s.	d.
By 7,222*l.* 15*s.* 0*d.* 3½% Conversion Loan Stock (1961) (purchased on sale of War Loan Stock) at cost	5,616	1	10
(*Value December* 31, 1929, at 74¼ = 5,362*l.* 17*s.* 10*d.*).			
	£5,616	1	10

QUEEN VICTORIA GIFTS FUND.

	£	s.	d.
To Fund invested (the income from this Fund is used to make Annual Grants to unsuccessful applicants for pension through the Royal Agricultural Benevolent Institution)	5,000	0	0
Undistributed Income	92	0	9
	£5,092	0	9

	£	s.	d.
By Investments in names of Trustees ; at cost:			
1,000*l.* Dominion of Canada 3% Inscribed Stock	1,062	14	0
1,000*l.* Victorian Government 5% Inscribed Stock 1932–1942	1,070	4	4
1,000*l.* New South Wales Government 5% Inscribed Stock, 1935–55	1,095	5	6
1,000*l.* London Midland & Scottish Railway Consolidated 4% Guaranteed Stock	1,556	15	9
190*l.* 4*s.* 6*d.* 2½% Consols	215	0	5
	5,000	0	0
By Cash at Bank, December 31, 1929	92	0	9
	£5,092	0	9

The market values of the Stocks on December 31, 1929, amounted to 3,510*l.* 16*s.* 5*d.*

STATEMENT OF FUNDS HELD BY THE SOCIETY IN TRUST—*continued.*

GILBEY FUND.

	£	s.	d.
To Amount provided by the late Sir Walter Gilbey for endowment of Lectureship at Cambridge University	1,000	0	0
Accumulation of Interest	204	10	4
	£1,204	10	4

	£	s.	d.
By Investment at cost :—			
1,457*l.* 5*s.* 2*d.* Metropolitan Water "A" Stock	1,204	10	4
(*Value on December* 31, 1929, at 60 = 874*l.* 7*s.* 1*d.*)			
	£1,204	10	4

SUPERANNUATION AND INSURANCE FUND.

	£	s.	d.	£	s.	d.	£	s.	d.
To amount set aside in accordance with declaration of Trust of July 26, 1911				9,171	5	0			
Less : Depreciation of Consols at time of conversion .	1,837	18	4						
„ Cost of conversion	256	3	0						
				2,094	1	4			
							7,077	3	8
Add : Purchase of 1,367*l.* 14*s.* 9*d.* 5% War Loan Stock at cost							1,167	0	0
							8,244	3	8
Accumulation to December 31, 1929 . . .							1,203	2	0
Income Tax payable on War Loan Stock Interest							176	8	0
							£9,623	13	8

	£	s.	d
By Investments in names of Trustees, at cost :—			
8,817*l.* 7*s.* 1*d.* 5% War Loan Stock (1929–1947) .	8,244	3	8
577*l.* 12*s.* 5*d.* West Australian 3½% Stock (1935–1955)	459	17	4
496*l.* 10*s.* 10*d.* Queensland 3½% Stock (1950–1970)	374	9	9
	£9,078	10	9
By Cash at Bank, December 31, 1929 . . .	545	2	11
	£9,623	13	8

The market values of the Stocks on December 31, 1929, amounted to 9,564*l.* 11*s.* 7*d.*

"MERCHANTS OF THE STAPLE OF ENGLAND" FUND.

	£	s.	d.
To capital sum paid by the "Merchants of the Staple of England" for the purpose of providing out of the yearly income Prizes to be competed for annually in the Wool Section of the Royal Show . .	500	0	0

	£	s.	d.
By Investment at cost :—			
503*l* 1*s.* 9*d.* New South Wales Government 5% Inscribed Stock, 1935–55	500	0	0
(Value on Dec. 31, 1929, at 90 = 452*l* 15*s.* 7*d.*)			

Examined, audited and found correct,
PRICE, WATERHOUSE & CO.,
Chartered Accountants,
Accountants & Auditors.

3 FREDERICK'S PLACE,
OLD JEWRY, LONDON, E.C.2.
4th February, 1930.

Royal Agricultural Society of England.

RESEARCH COMMITTEE.

RECEIPTS AND PAYMENTS FOR YEAR 1929.

RECEIPTS.

	£	s.	d.
To Grant from General Account	1,727	16	8
„ Sales of copies of *Agricultural Research*	36	5	3
„ Advertisements in *Agricultural Research in* 1927	73	13	0
	£1,837	14	11

PAYMENTS.

	£	s.	d.	£	s.	d.
By Grants to Research Institute in Animal Pathology, Royal Veterinary College, for Research re Mammitis in Cows				300	0	0
„ Grants to Rothamsted Experimental Station for Lucerne Seed Inoculation Experiments				200	0	0
„ Grants to Rothamsted Experimental Station re collating Woburn Farm data				250	0	0
„ Grants to Norfolk Agricultural Station for Malting Barley Experiments and Drill Trials				350	0	0
„ Grant to Leicestershire County Council Education Committee re Shoby Grassland Experiment				100	0	0
„ *Agricultural Research in* 1927—Postage and Printing Leaflet, etc.				9	10	1
„ *Agricultural Research in* 1928 :—						
Printing and Binding	205	7	9			
Honoraria to Contributors	350	0	0			
Postage	38	7	11			
Miscellaneous	18	1	5			
				611	17	1
„ Miscellaneous Expenses				16	7	9
				£1,837	14	11

Examined, audited and found correct,
PRICE, WATERHOUSE & CO.,
Chartered Accountants,
Accountants & Auditors.

FREDERICK'S PLACE,
OLD JEWRY, LONDON, E.C.2.
4th February, 1930.

[Copies of the full Report of any of the Council Meetings held during the year 1929 may be obtained on application to the Secretary, at 16 Bedford Square, London, W.C.1.]

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

Minutes of the Council.

WEDNESDAY, FEBRUARY 6, 1929.

LORD HARLECH (Vice-President) in the Chair.

In the unavoidable absence of Viscount Lascelles (President) Lord Harlech was called to the chair, on the motion of the Earl of NORTHBROOK, seconded by Lord DARESBURY.

Five Governors were elected and 87 new members were admitted into the Society.

Mr. BROCKLEHURST, in moving the adoption of the CHEMICAL Committee's report, drew the attention of the Council to a matter to which reference was made in it—namely, "Federal" barley. It appeared that barley grown in the United States, and known as "Federal" barley, was passed as barley and counted as barley. The definition allowed of a large mixture of oats or other impurities. The sale of the barley when ground as barley meal was very unfair to the producer in this country. He had to conform to the Fertilisers and Feeding Stuffs Act. Under that Act barley meal had to be the product of what was called commercially grown pure barley. Therefore there was unfair competition. "Federal" barley was largely sold in this country, and he thought that he could safely say that it was injurious in some cases to stock that was fed upon it. He did not know what the remedy was, but he thought that it was desirable to make the matter as public as possible, so that the purchasers should know what they were buying. They should be urged to buy the home production, which at any rate was a pure article.

In presenting the Report of the VETERINARY Committee, Sir MERRIK BURRELL referred to the letter which the Committee recommended to the Council should be sent to the general Press in regard to the matter of concealment of foot-and-mouth disease and the inadequate penalties which were sometimes imposed by Petty Sessions after conviction. The Committee met representatives of the National Farmers' Union and agreed that it was desirable to make one more effort to educate people to the great danger of not reporting immediately, and to try to impress on the minds of magistrates the very grave consequences that might occur through concealment. He regretted to say that after the Conference the Council of the National Farmers' Union thought it undesirable to make any move at present, on the ground chiefly that of recent months there had not been very much concealment and therefore there was no immediate necessity for any such letter.

The Veterinary Committee did not take that view. They thought that it was wrong to wait before making a move until after there had been a big outbreak and after concealment, and after the country had had perhaps to spend half a million pounds on stamping out the disease, and that it was wiser to try once again to educate people and head off the danger. Therefore the Committee recommended that the letter which had been drafted should be sent above the signature of the President to the Press of the whole country in the hope that people would read it and would realise the gravity of either not reporting at once or of deliberate concealment.

As regards sheep scab, the figures which the Principal of the Veterinary College gave the Committee on the previous day, which showed that there had been a hundred and ninety-six outbreaks during the last month, as compared with one hundred and twenty-four outbreaks in the corresponding month last year, were in themselves sufficiently alarming, and they might justify the remarks made by a member of the Society at the annual meeting. The question was an old one. It was one which the Society had thrashed out time and time again. The Ministry of Agriculture had made more than one attempt to get the farming community to co-operate with it in stamping out the disease, as undoubtedly it could be stamped out if the sheep owners in the mountain districts really tried. It was rather difficult to see what was the best thing to do, and therefore it had been decided to ask the Minister of Agriculture whether he would meet representatives of the Society who understood the difficulties of the question and representatives of the National Sheep Breeders' Association and talk the matter over to see whether any really useful and efficient step could be taken towards stamping out the scourge.

Mr. **WILLIAM BURKITT**, referring to the statement that there had been no concealment of foot-and-mouth disease, said that it was very evident that during the last few days there had been a very glaring case of concealment in connection with the exceedingly serious outbreak that had taken place at Catterick Camp. It was said that there were pigs there that had recovered from the disease. The question of meat wrappers had cropped up. The opinion in his district was that the outbreak might be due to the bones from the foreign meat consumed at the camp. Speaking as a representative of Durham, he would like to say that there was another thing which appealed very strongly to farmers in that county. They had no very definite data as to how the disease was carried, but amongst other goods going into the camp were potatoes. Despite the fact that Durham was an importing county as regards potatoes, potatoes were almost a glut in the market, and the farmers had not been able for the last two or three months to get what they called a reasonable and satisfactory price. They felt strongly that if they could not have safeguarding from the economic point of view at least they ought to be safeguarded from the disease in some way.

Lord **BLEDISLOE** said that in connection with the mild difference of opinion between the Committee and the National Farmers' Union, knowing something of the inside of the picture he could not help saying that at the Ministry of Agriculture (and he did not think that there need be any secret about it) for some years past there had been a conviction that there was frequent concealment of outbreaks of foot-and-mouth disease. The most glaring case was of course in Cheshire some three years ago, when by far the most serious outbreak suffered in this country in recent years occurred. When the offence was overlooked and financial advantage was found to be derived from it there was no doubt that others copied the evil example and the trouble spread. Unfortunately, although there were some very outspoken comments on the part of the Ministry of Agriculture and others at the time of the Cheshire concealments, the particular offence was not likely to abate, and one knew perfectly well that during the last eighteen months, although it might be extremely difficult in every case to bring the accusation home, there had been a spreading of foot-and-mouth disease in certain areas which would not have occurred if there had been no concealment and if magistrates had taken the strong line which, in the interests of all concerned, they ought to have taken.

Reference had been made to the discovery of healed lesions. That was not now so very uncommon when outbreaks of foot-and-mouth disease occurred and their spread followed. He was very glad that the premier agricultural society of the country was taking up the matter, and he hoped that its action would be made public through the Press in the most widespread manner possible.

Sir MERRIK BURRELL asked for the assistance of any member of the Council who had any knowledge of the difficulties of the industry of selling sheep from the mountain districts to other parts of England which occurred every year through the local restrictions that had to be imposed by those parts of England which were clean. If the deputation which was going to meet the Minister could have some first-hand evidence on the dislocation of trade which occurred through the necessity of local regulations it might be very useful.

The IMPLEMENT Committee's Report having been presented, Sir DOUGLAS NEWTON asked to be allowed respectfully to express his regret that the Committee did not see its way to earmarking some proportion of the many thousands of pounds that were paid by the implement makers for the privilege of exhibiting at the show for experiments in machinery and the development of new machinery. It appeared to him that it was for the Society to do what it could to help the arable farmer by assisting the implement maker. It also occurred to him that the stimulus of a gold medal, the intrinsic value of which was small, was not in itself really sufficient. It was not enough to say, "We give a gold medal, and therefore anybody with any enterprise will naturally make the machines we want." He thought that the Society ought to be able to say, "We have a fund. We want a particular type of machine. We know that we want it badly. We know that it will help agriculture. If you can submit plans which are likely to lead to the development of such a machine we are willing to lend you some financial assistance," perhaps pound for pound. It was with great regret that he heard the decision of the Committee, because agriculture was in great need at the present time, and the machinery side was a very important one. He thought that the use of machnery was the only way in which arable agriculture would re-establish itself in this country. Prices would probably remain low; but if production was cheapened there might be a little hope for the farmers in the arable districts.

Sir MERRIK BURRELL, in moving the adoption of the report of the RESEARCH Committee, said that there were two things upon which he wanted to touch very briefly. One was the question of the production and distribution of vaccines and cultures when they had passed beyond the laboratory stage. It was a problem which was beginning to face all experimental stations, and it was not at all an easy one to solve. As members knew, Messrs. Burroughs, Wellcome and Co. had undertaken to produce the distemper vaccine. The problem was one which had faced the Royal Veterinary College, and which was beginning to face Rothamsted, and the Research Committee intended to take steps during the next twelve months to see how the difficulty could best be overcome, without, of course, committing itself in any way to any particular firm.

The Committee had asked for its usual £2,000 for its next year's work, but it was arranging to fulfil its promise to Mr. Adeane in respect of the Cambridge University Fund.

Lord BLEDISLOE quite appreciated the difficulty which Sir Merrik Burrell raised in regard to the putting upon the market of inoculative cultures when they had passed the laboratory stage. During the time that he was Chairman of the Administrative Committee of Rothamsted the problem was a very great one. He really did not know what could be done in the matter. Take the case of the inoculation of lucerne. He thought that most people who had studied the subject at all realised that at least in those parts of the country where the rainfall was heavy and where the soil was sour the successful cultivation of lucerne depended very largely on the seed being inoculated. However, one might take a horse to the water but one could not make him drink, and unless commercial people could be satisfied that there was going to be sufficient demand from farmers for the cultures they could not be expected to start a new business with a view to supplying them. He should have thought that what could be done, particularly with the help of their friend Mr. Macdonald, was, when the Research Committee of the Society was satisfied that there was a commercial advantage for the farmers in the use of the cultures, to make it perfectly clear through the Press that there was likely to be an increasing demand, or that there ought to be an increasing demand, for the products, and thereby afford some stimulus to those in the chemical trade or some other trade to start upon them as part of their business. He doubted whether it was suitable to be a part of a seedsman's business; but he should have thought that there were plenty of businesses which might usefully take the matter up and not lose money by it.

Sir EDWARD CURRE asked how long it was likely to be before the distemper vaccine was available.

Sir MERRIK BURRELL said that that question, of course, was really quite outside the work of the Research Committee; but he understood that Messrs. Burroughs and Wellcome would probably have a sufficient supply of the distemper vaccine and begin to sell it in three or four months' time. He really did not know a great deal about it.

Sir DOUGLAS NEWTON asked whether the Research Committee were now in a position to furnish the Council with any further information with regard to the alleged discovery of the fibrous plant which was said to be capable of being grown on a commercial scale. If so, might the Council have information on the matter? As the members were aware, great prominence was given in the Press a short time ago to the alleged discovery. A good many agriculturists had been awaiting with interest some sort of information. He thought that anything which could be said authoritatively by a body such as the Council certainly would be appreciated by agriculturists.

Sir MERRIK BURRELL said that after what Sir Douglas Newton said at the last Council meeting he got busy to a certain extent in trying to find out on behalf of the Society the exact position in regard to the fibrous plant. Perhaps, unfortunately, he was led off the exact plant to which Sir Douglas referred by the curious coincidence that there were two cellulose-producing plants going through an experimental stage of cultivation in this country at the present moment. He found out later that Sir Douglas Newton was alluding to a water plant the product of which was to compete with cotton. In his search for the plant the first one that he came across was a plant called Brotex, which would not compete with cotton, but which was supposed to compete with jute and sisal. The company which owned that plant gave him a considerable amount of information about it, and promised to let him know if the Society could be of any use to them in getting the plant grown commercially by the farmers of this country. At the present moment it was still in an experimental stage. The company had plenty of money, they did not ask for the help of the Society, and it would be inopportune for it to attempt to "butt in" on their affairs at this time.

The other plant, the one to which he thought Sir Douglas Newton referred, was stated to be being grown experimentally in West Sussex. When he talked to the Agricultural Organiser of West Sussex about it he told him (Sir Merrik) that immediately he heard of it he made enquiries of the company which owned it, and who were experimenting with it, and he was politely but quite firmly told that at the present moment any outside help or interference was not desired. So he (Sir Merrik) dropped that too. He thought that at the present time there was no work in this connection which the Research Committee could usefully do; but he would, of course, keep in touch with the matter.

WEDNESDAY, MARCH 6, 1929.

VISCOUNT LASCELLES, K.G. (President), in the Chair.

Thirty-four new members were admitted into the Society.

Mr. H. DENT BROCKLEHURST presented the Report of the CHEMICAL Committee. He was sorry to say that Dr. Voelcker had been ill for some time and unable to attend the meeting on the previous day. He was glad, however, to say that Dr. Voelcker was now nearly well, and, judging from his last letter, he hoped that he would soon be restored to his usual health.

Lieut.-Colonel STANYFORTH, moving the adoption of the Report of the IMPLEMENT Committee, said that the Council would see from the last paragraph that it had been practically decided to hold Tractor Trials next year. He was not in a position at the moment to give full details; but it might be taken that in 1930 there would be Tractor Trials.

The Earl of NORTHBROOK, in moving the adoption of the Report of the COMMITTEE OF SELECTION AND GENERAL PURPOSES, said that the delegates appointed by the Society to attend the National Conference on Agriculture were not prepared at the meeting of the Selection Committee to present any written report on the matter; but Sir Merrik Burrell had kindly undertaken to make a verbal statement as to what took place at the Conference, which he, Mr. Brocklebank and others attended.

Sir MERRIK BURRELL said that, as the members of the Council knew, the Conference lasted for the greater part of two days; therefore it was quite impossible to give more than a mere personal impression of what occurred during that time. It was also unnecessary for him to enter into any particular details of exactly what happened, because the Conference was very widely and, on the whole, very well reported in *The Times* and the rest of the Press.

The first impression that he had while sitting at the Conference was that the Royal was very wise in deciding to be represented at it. He was quite sure that no agricultural body which received an invitation to attend such a Conference could refuse to attend without losing prestige. (Hear, hear.) To have refused to attend would show a lack of sympathy, and might possibly appear to show a lack of understanding of the grave problems which faced the agricultural industry to-day. As probably all the members of the Council were aware, the Society's Charter forbade it from taking any part in any political discussion. Though the Conference was called to discuss the economics of agriculture, it was extremely difficult sometimes to know where to draw the line between what was merely economics and what was political. Sir Archibald Weigall, at the outset of the Conference, made it quite clear that if the discussions at the Conference became political the representatives of the Society could only be interested and sympathetic listeners, and would not be able to take any part in the discussions nor vote upon the resolutions. He thought, therefore, that the Society's representatives quite safeguarded it from doing anything which its Charter forbade.

Another impression which he received, and he thought that Mr. Brocklebank, who sat through the whole Conference, probably received the same impression, was that the Conference really was an endeavour to find common ground on which people of all classes and of all kinds of thought in the industry could agree. The main object of the Conference was to find subjects on which everybody could agree, and he considered that it succeeded in doing that. The chief good of the Conference, so far as he could see, was that it enabled the leaders of the agricultural workers and of other branches of the industry to express their feelings freely and to find how very much in sympathy with one another were all those who attended the Conference. The moment the discussions became too controversial both sides were willing to drop the controversial matter and to start again to find common ground for agreement.

The result was that a deputation was formed of all branches of the industry to go, with the resolutions on which the Conference had found it could agree, to the heads of the three political Parties, and to ask all those three Parties to combine in trying to help agriculture, at any rate, on those points upon which the representatives of agriculture had already agreed. He thought that if the Conference had done that only it had done distinct good, because surely that was a real step forward in trying to lift the problems in front of agriculture out of the dirt of the arena of Party politics and towards getting the leaders of the three great political Parties to combine, as far as ever they could, in helping the industry. He submitted that when a movement of that kind was going on there was nothing in the Charter of the Society that prevented it from taking part in it. There were no politics at all in the movement. In fact, to his mind, it was the very opposite of political. It was a movement to get politicians to forget their politics, and to combine, as far as they could, to help agriculture without doing any injury to any other industry. The resolutions passed and the speeches made, although extremely good in their way, were, to his mind, of less importance than the feeling of harmony that was engendered during the Conference between those who took part in it.

Sir ARCHIBALD WEIGALL agreed absolutely that from the psychological point of view the presence of the representatives of the Society at the Conference was justified. He explained that at the outset he had made the position of the representatives quite clear, and that as one of those representatives he could not take part in any discussion of a political tendency. He hoped that he need not make any apology for the Conference not being allowed to enjoy the eloquence of Sir Merrik Burrell, Mr. Dampier-Whetham or Mr. Brocklebank.

The Rev. C. H. BROCKLEBANK said that on the second day of the Conference, before the meeting began, he had a most friendly conversation with the representatives of Labour. He asked them a question about tied houses. He said, "I have built two farmsteads in my life, and two tied cottages to go with the farmsteads, one for the stockman and one for the horseman. What am I to do if those men leave me and these cottages are not to be tied?" One of the gentlemen had no answer to that. Then he said to them, "How is the farm to continue as a going concern unless I have control of the cottages?" Another representative of Labour said, "You are looking at it the wrong way round, from the wrong point of view, guv'nor. You should think of the poor man and his wife and children who are turned out of the cottage into the road." He (the speaker) said, "What is your remedy for that?" And the reply was, "The Government ought to build a house for every man in the country." (Laughter.)

Lord BLEDISLOE thought that the Society owed a deep debt of gratitude to those who represented it at the recent Conference. For his part, he had been very doubtful as to whether the Conference ought to be held, and he was still more doubtful as to whether it was discreet of that non-political Society of agriculturists to participate in it or to be represented at it. He was bound to say that his ideas had entirely changed on the subject, and in no small degree owing to the statesmanlike and prudent attitude of the Society's representatives at the Conference. (Hear, hear.) He thought that Sir Archibald Weigall's statement was both dignified and unexceptionable from their point of view. Sir Merrik Burrell's statement that day must make them realise that it was quite proper, in fact almost essential, that the Royal Agricultural Society should not be unrepresented on so epoch-making an occasion. The very fact that they were a non-political organisation lent particular force to their representatives being present on an occasion when there was stressed above every other consideration the desirability of taking the interests of the greatest industry of the country out of the cockpit of party politics. He could not help feeling that a great step forward had been taken as the result of the Conference. The attitude of the Society's representatives had been all that could possibly be desired of them.

The PRESIDENT: I am sure that you will wish, on behalf of the Society, to express our gratitude to Sir Merrik Burrell and his colleagues for the attitude which they assumed at the Conference. (Hear, hear.)

In moving the adoption of the RESEARCH Committee's Report, Sir MERRIK BURRELL said he was glad to be able to assure Mr. Adeane that the Committee would be able to hand him back a substantial sum—he hoped certainly not less than £250.

WEDNESDAY, APRIL 10, 1929.

LORD DESBOROUGH, K.G. (Vice-President), in the Chair.

The CHAIRMAN said that Lord Lascelles had asked him to express his very great regret at his inability to preside at the meeting. He had been appointed Lord-Lieutenant of the West Riding of Yorkshire, and had a very important function to attend in Leeds.

Before the Council dealt with its regular business, attention should, he thought, be drawn to the loss which agriculture had sustained in the death of Sir Henry Rew, which members no doubt had seen announced in *The Times* of the previous day. Although Sir Henry Rew was not a member of the Council, he had been for a great many years closely connected with the Royal Agricultural Society. He was a life member of the Society from the year 1887. Early in his career he was for a short time an official of the Society. After several years' service as Secretary to the Central Chamber of Agriculture, he went to the Board of Agriculture as Assistant Secretary. He was an eminent statistician and a writer on agricultural affairs. A number of articles from his pen appeared in the volumes of the Society's Journal. His Lordship was sure that they would all express their regret at the loss which agriculture had sustained and their sympathy with Sir Henry Rew's relations.

The members stood in silence.

Mr. Thomas Hornby (Anglo-American Oil Co., Ltd.) was elected as a Governor and 74 new members were admitted into the Society.

In presenting the Report of the CHEMICAL Committee, Mr. BROCKLEHURST said he wished to refer again to the question of foreign barley, which came up at the last meeting but one of the Council. He would like to state the position briefly, so that any member who was not present at the previous meeting would be in possession of the facts. The barley grown in the United States, if it contained 53 per cent. or more of barley, was passed and counted as barley. The definition allowed the admixture of a large proportion of oats or wheat or other impurities. Because such barley was cheaper it was largely imported into this country, and it was ground alone or mixed with home-grown barley and sold as barley meal. The result was that all over the country there were numerous cases of inferior barley meal. This acted most unfairly upon the grower of barley in this country, who had to comply with the Feeding Stuffs Act, which defined barley meal as the meal obtained by grinding the pure barley as grown. The matter came up on the previous day before the Chemical Committee, and that Committee thought that it was one of importance for the home grower. It recommended that the Council should make a representation to the Ministry of Agriculture, exacting the same conditions for foreign barley as for home-grown barley. The moment was opportune for making such a representation, because reports of the cases were now before the Ministry with a view to action being taken, and to the institution of proceedings in reference to inferior barley meal.

In moving the adoption of the Report of the VETERINARY Committee, Sir MERRIK BURRELL referred to the report given to the Committee on the previous day by Professor Hobday, in which attention was called to the very satisfactory condition as to all animal diseases in this country except in regard to the vexed question of sheep scab. Last year there were 743 outbreaks, which was almost identical with the number exactly twenty years ago, and last month there were 45 outbreaks as against 28 in the corresponding month last year, and 334 as against 243 in the corresponding three months of last year. So already in the first three months of this year there had been nearly half the recorded number of last year. The Conference which had taken place with the Minister and the report which he submitted to the Veterinary Committee on the previous day had been, he thought, quite justified by the latest figures as to the outbreaks. The report which had just been read was comprehensive and gave the exact truth of the situation at the present moment, and he did not want to add anything to it; but he would like to emphasise the fact that there were two things which appeared quite apparent as a result of the Conference. One was that the regulations did not need any alteration or addition. If they were carried out they would no doubt be efficient. The other was that universal double dipping throughout all the counties was quite an unnecessary step to take. It was no good dipping a lot of clean sheep and putting people to a great deal of unnecessary expense and trouble when their sheep had not and could not have the disease. It was far wiser to concentrate all the efforts and all the money on those areas where the disease existed. It was apparent that until public opinion was aroused in this country in the way in which it had been aroused in Australia and New Zealand it was not likely that any regulations would be successful. Therefore it was necessary to get the local authorities in the clean counties to take even greater care than they took at present to prevent sheep scab entering those areas, and it was also necessary to undertake the more difficult task of arousing farmers generally and the magistrates in what might be called the dirty areas to the necessity of taking active steps to stamp out the disease. There was no doubt that it could be stamped out if people would only try. The sending of the report to all the various people whose names the Secretary had read out was the initial step in trying to effect the desired results.

He would like to make a personal appeal to the members of the Council who were present and also to those who were absent to endeavour in the counties which they represented on the Council to wake up individual people, local authorities and agricultural bodies, and to arouse public opinion in their counties. He would like the counties from which gentlemen on the Council came to realise not only that they sent those gentlemen to work in the Council, but that the Council sometimes sent them back into their counties in order that they might exert some influence there.

Lord BLEDISLOE said that until they could persuade their friends from over the border in Scotland to take up a wiser and more drastic attitude in relation to sheep scab this country would never be really free from the serious development or recrudescence of the evil amongst its flocks. He knew that that was the view of the late Sir Stewart Stockman. He (Lord Bledisloe) when he was at the Ministry of Agriculture, attended more than one conference at which representatives of the Scottish agriculturists were present, and it was quite evident then—that was about four or five years ago—that, though no doubt Wales and Welsh authorities were open to some criticism, particular parts of the Highlands of Scotland and the local authorities there were open to much more serious criticism.

It was a rather sad thought that in this country the Ministry of Agriculture had to look to so-called public opinion before it could enforce regulations which in its opinion would be successful in stamping out the disease. Unfortunately, unlike Australasia, we were not preponderantly an agricultural country, and to arouse public opinion, even on the initiative of the Society, was by no means easy. He could not help thinking that in the last resort it might be advisable to press the Government to provide by legislation for some much more drastic treatment of the disease than was at present employed, treatment more on a par with the regulations introduced in the case of foot-and-mouth disease. He suggested that now the Royal Agricultural Society had, in the general interest, put its hand to this particular plough it should invite the Highland and Agricultural Society to plough the furrow with it. He seriously believed that any efforts made would be relatively fruitless unless the whole-hearted assistance of the leading agricultural society of Scotland could be secured. Possibly the proposal he had made might be passed on to the Committee which had submitted such an admirable report.

Mr. WILLIAM BURKITT suggested that amongst those to whom the report was sent should be the Chairmen of the Diseases of Animals Committees of the County Councils. If it were so sent the matter would be ventilated.

In his opinion the Government made a great mistake when it did away with the dippings which each county had. In his county, as in many others, there were regular dippings every year, one about July 1st and the other about November 1st. Those dippings might not be sufficient to kill sheep scab, but they ensured that every farmer dipped his sheep twice, and now that those dippings were done away with many farmers never dipped their sheep at all. The result was that the sheep were liable at any moment to get sheep scab, because they were not in the cleanly condition in which they should be.

Sir MERRIK BURRELL said that a copy of the report, with a covering letter which he had already drafted, would go to the Highland and Agricultural Society of Scotland. As to the Diseases of Animals Committees, the report would be sent to the Clerks of all the County Councils, and he imagined that their first step would be to pass it on to the Diseases of Animals Committees.

Mr. WILLIAM BURKITT asked whether the Clerks of the County Councils could be requested to do so.

Sir MERRIK BURRELL said that he had forgotten exactly what he had said in the covering letter, and whether he had asked for the report to be passed on to the Diseases of Animals Committees. He would add something to the covering letter to make the point quite clear.

In moving the adoption of the Report of the IMPLEMENT Committee, Lieut.-Colonel STANYFORTH said he thought that the Council would be very pleased to know that the implement entries for the Harrogate Show were extremely satisfactory. Both in numbers and in amount of money they were very satisfactory indeed.

The main subject of the Report was the question of the tractor trials, which he suggested to the Council last month would probably come before the present Meeting. Members had heard the bare outline of the proposals, but he thought that when they were asked to agree to the suggestion made by the Committee, they ought to have a little more information, and he would therefore read the suggestions that were prepared for the consideration of the Executive Committee on the previous day:—

> It is some ten years ago since Tractor Trials were held in the United Kingdom, and it is now thought that the time has arrived when Tractor Trials must be inaugurated for the purpose of making exacting tests of

improvements in tractors, particularly those for utility and general purposes.

A considerable amount of development has occurred in the evolution of the tractor since 1919, both as regards the machine itself and also as regards its ancillary equipment, such as new methods of adhesion, couplings and other such devices. The tractor must be regarded now as playing an important part in agriculture, but since the trials already referred to no exact data are available which will show to the farmer the new possibilities and improvements made in the tractor in connection with his general farming operations. With the object of placing such definite information at his disposal, it is thought that a tractor trial of an extensive character, embodying every type and form, and not restricted to this country, would serve to produce the desired result.

The Tractor Trials so far held in this country have had to serve the dual purpose of both demonstration and test simultaneously, which, from their very character, makes it impossible to collect scientific and economic data of the nature so necessary to give an accurate and precise opinion of the performance of each machine and its various devices.

Consequently it is proposed to change the whole method for the trials to be held in 1930.

Instead of collecting such information as was possible in the short time available, during a demonstration period, it is now intended to divide the scheme into two parts:—

(1) Testing period.
(2) Demonstration period.

The testing of each machine will not be open to the public, and will be exacting and of a scientific and practical character, providing precise data as to the tractor's capability covering bench, field and general utility purposes.

It is intended that the test shall be conducted, so far as that is possible, in one centre somewhere near Oxford under comparable conditions.

The demonstration will be open to the public for four days, giving to all those interested the opportunity to view the machines actually at work.

A special demonstration of the actual tests will also be given in a special section of the field devoted to that purpose, but on machines where actual data have already been collected.

He wanted members to understand that the trials were not going to be conducted entirely under the auspices of the Royal Agricultural Society; they would be conducted under the auspices of the Society in conjunction with the Institute of Agricultural Engineering of the University of Oxford, to whom a great debt was due. They were giving the use of their personnel, and they were also subscribing a much larger sum towards the expenses of the trials than the Royal itself was subscribing. The management would be in the hands of two committees—one the Advisory Committee, which was practically the Implement Committee of the Society, and the other the Executive Committee. The latter consisted of representatives from Oxford and from the Society. The matter was being gone into in detail. The details would be placed each month before the Advisory Committee, and the Implement Committee would submit to the Council anything of interest. It asked for £500. The Finance Committee had been good enough to say that it agreed to that sum.

In presenting a Report regarding the QUARANTINE STATION, Sir MERRIK BURRELL said he thought that the Council could congratulate itself that in the first year it had been possible to put sixteen batches of cattle through the Quarantine Station. The Irish cattle had to remain in the station for three weeks, and therefore had occupied rather a lengthy period.

He would like to be allowed to express his thanks to the staff of the Society and to Ritchie, the manager, and his staff at the Quarantine Station, without whose loyal work such a successful termination of the first year's working could not possibly have been reached. It was only through the station having run successfully that Australia had acquired sufficient confidence to come in under the scheme. He felt that he owed the staff his thanks. But for their work he would not be able to state at that meeting without a single regret that eighteen months ago he advised the Council to undertake the work.

The CHAIRMAN said he was sure that the Council would receive the Report with gratification.

The SECRETARY reported that he had received a letter from the Hon. Secretary of the Harrogate Club stating that the Club would be prepared to extend hospitality to the Council as honorary members during the time of the forthcoming show.

WEDNESDAY, MAY 8, 1929.

LORD HARLECH (Trustee) in the Chair.

The SECRETARY, at the request of the Chairman, read a letter from Lord Lascelles expressing his regret that owing to a previous engagement in Leeds he would be unable to be present that day to take the chair, and conveying the information that Her Majesty the Queen would visit the Show at Harrogate on Wednesday, July 10.

The CHAIRMAN said that before commencing the ordinary business of the Council meeting it was his sad duty to take the first opportunity possible of referring to the loss that the Council, the Society, and agriculture as a whole had sustained by the death of the Earl of Northbrook. Lord Northbrook's connection with the Society was a long and honourable one, and during its continuance his lordship had done a great amount of useful work. Only two months ago he was present at the Council meeting, apparently in the best of health. Lord Northbrook was elected a member of the Society in 1880, and became successively a member of the Council in 1889, Vice-President in 1905, and a Trustee in February, 1911. The Society bestowed upon his lordship the highest honour it was possible for it to bestow when they elected him President in 1913, the year in which the Royal Show was held at Bristol. Many present would remember his late lordship's activities as a Steward of Stock from 1902 to 1905, and as a ring steward for Shorthorn cattle in conjunction with the Duke of Devonshire. Lord Northbrook had held the Chairmanship of the most important Committees of the Society—the Veterinary Committee from 1905 to 1926, and the Selection and General Purposes Committee from 1927. He was also Chairman of two special Committees appointed by the Society—namely, the Tuberculosis (Animals) Committee and the Executive Committee of the Agricultural Relief of Allies Committee. He felt that no words of his could adequately convey the Society's deep sense of their loss or their great affection and esteem. Lord Northbrook's sound judgment, kindly advice and willingness at all times to assist would be missed, not only by the members of the Council, but by many others, especially in his lordship's native county of Hampshire. The Society had been represented at a memorial service held in Winchester Cathedral by Sir Merrik Burrell, who succeeded Lord Northbrook as Chairman of the Veterinary Committee, Mr. Ashton and Mr. Turner, the Secretary of the Society. He was sure that it was the wish of the meeting that he should, on behalf of the members, convey to Lady Northbrook their sympathy with her in the bereavement that she had sustained.

The CHAIRMAN said he also wished to refer briefly to the sad and tragic end of Lady Powis, the wife of one of their ex-Presidents, who was killed last week as the result of a motor accident. Their hearts went out in sympathy with Lord Powis in his great bereavement.

The members stood in silence.

The following were elected as Governors:—Henry S. Clough, Redholt, Keighley; Sir Henri W. A. Deterding, K.B.E., Buckhurst Park, Ascot; Sir John Dewrance, G.B.E., Wretham Hall, Thetford; C. J. W. Farwell, K.C., Beam, Torrington; Col. Sir Charles Rosdew Forbes-Leith, Bart., O.B.E., Thame Park, Oxon; Sir Frederick Daniel Green, Gotwick Manor, East Grinstead; Oswald W. E. Hedley, Briery Close, Windermere; Sir Charles Hyde, Bart., The Moat, Berkswell, Coventry; Major the Hon. Edward Lascelles, D.S.O., Linton Spring, Wetherby.

Eighty-seven new members were admitted into the Society.

In moving the adoption of the report of the FINANCE Committee, Mr. ADEANE stated that under bye-law 4 any Governor who had paid a subscription to the Society for fifty years could be a Life Governor without further payment. The same rule applied to any member who had paid his subscription for that length of time; he could become a Life Member. He thought that gentlemen who were in such a fortunate position should be informed of the fact.

Colonel WHEELER, in presenting the report of the BOTANICAL AND ZOOLOGICAL Committee, informed the meeting that he had had the opportunity of asking Lord Hastings to accept the office of Steward in the event of Mr. Coltman-Rogers not being able to act, and his lordship had kindly consented to do so.

In moving the adoption of the VETERINARY Committee's report, Sir MERRIK BURRELL said he did not think he need say anything in amplification. There was no formal report that day from the Quarantine Station Committee, which was, in a way, a sub-committee of the Veterinary Committee. It would please the Council to know that thirty-two cattle started from the Quarantine Station early in the week for Australia. He had seen them just before their departure, and could state that some extremely high-class cattle were included. One bull was valued at over £3,000, one at over £1,000, one at £800 and one at £400, and there were several heifers at about £200 each. It would therefore be seen that their efforts were enabling home breeders to market some of their pedigree cattle at satisfactory prices, and at last farmers in the Dominions were able to get hold of the cattle which it was most desirable that they should have for grading up their herds.

Mr. F. P. MATTHEWS said he was interested in nearly half of the highest priced animals that had gone to Australia. He had seen them shipped. He would like to compliment very highly Sir Merrik Burrell and those assisting him at the Quarantine Station on the splendid manner in which the cattle had been turned out. He had been interested in a large number of the cattle that had gone through the Station, and he could safely say that in each case they came out in a better condition than when they went in. The extraordinary success of the very great efforts by Sir Merrik Burrell to get the Australian Government to accept cattle from the Quarantine Station was the very best thing for breeders in this country that had happened for a considerable time.

Mr. BURKE moved the adoption of the Report of the STOCK PRIZES Committee. The Council, he thought, might like to know something about the entries for the Harrogate Show. He was not able to give exact figures, because there was a good deal to be done in connection with the final adjustment of the entries, but he could give a rough idea. The Council would, he thought, consider the position very satisfactory. Altogether the numbers pointed to a most successful show.

Lieut.-Colonel STANYFORTH, in moving the adoption of the IMPLE-

MENT Committee's report, said he did not think the Council wished to have the regulations for the Tractor Trials read. Those members of the Council who were mainly interested and who knew most about the subject were those who were members of the Advisory Committee or the Implement Committee. The regulations could be seen in the Secretary's room. It was hoped to get them into final form in a very short time. There was a division of work between the Institute of Agricultural Engineering and the Society. It was felt that the sooner the final form was got out the better it would be.

Lord DARESBURY, in moving the adoption of the report of the Committee of SELECTION AND GENERAL PURPOSES, said he was sure that he was only expressing the feeling of all present when he said what a great pleasure it was to hear that Her Majesty the Queen would attend the Harrogate Show. Everything pointed to its being a very good Show, and much help was being given in Harrogate and in the County of Yorkshire generally to make it a success. They would all, he was certain, be delighted at the news with regard to the Queen.

Sir MERRIK BURRELL, in moving the adoption of the RESEARCH Committee's report, said that Mr. Dampier-Whetham had kindly undertaken to see Mr. Dale on the subject of the conference on the commercial development of the results of research. The question was rather a big one. As the result of the interview with Mr. Dale some slight alteration might be required. Perhaps Mr. Dampier-Whetham would explain.

Mr. DAMPIER-WHETHAM said that Mr. Dale quite agreed that it was desirable to try to get some common action amongst the various Government Departments and societies concerned in financing and looking after research when the results of the research came to the commercial stage. Mr. Dale had made the suggestion that, besides the two bodies already invited, representatives of the Development Commission and of the Medical Research Council should also be invited. With the leave of the Chairman he would therefore move that the Sub-committee be authorised to extend an invitation to representatives of those two bodies.

Lord BLEDISLOE, speaking as one who had taken an active part in recent years in connection with the matter, said that it was difficult to obtain money for the undoubtedly desirable purpose of translating the results of research into intelligible language with a view to their commercial employment. He would venture to suggest that action be taken to get money from the Empire Marketing Board if and when it was required for that purpose. As members knew, the Empire Marketing Board was the most useful milch cow for any purpose of the sort that had yet been brought into existence. The Board was most likely to open its coffers and pour out its gold if there was an Empire side to the question. He presided over the Imperial Agricultural Research Conference two years ago, and he was inclined to think that it might at least be to the ultimate financial advantage if somehow or other there was representation of the Dominions on the body which would consider how best to develop the results of agricultural research from a commercial standpoint. It might be indiscreet to say anything further at the present time. When the Dominions side of a British agricultural product was emphasised the greater was the prospect, in his judgment, of getting money out of the organisation which was best able to provide it.

Sir MERRIK BURRELL said the account of the conversation with Mr. Dale obviously made it necessary to amend the report by including an invitation to a representative of the Development Commission and a representative of the Medical Research Council. The conference would be a purely informal one to start with, and he thought that it would be advisable that it should not be numerically large. It might be advisable also to ask a representative from the Empire Marketing Board to attend the conference.

Lord Bledisloe thought that that would be a wise step.

The Report, as amended, was received and adopted.

Lord Desborough said that the Reconstituted Cream Bill was discussed yesterday in the House of Lords, and it was decided to substitute in all the places where the word "reconstituted" occurred the word "artificial." Lord Bledisloe in the debate had told the House a great deal about the reconstitution of cream. He did not know whether the amendment would be accepted by the House of Commons. The debate was entirely non-political, and the subject was discussed in an amicable way from all the different points of view. Many wanted to change the word "cream," and Lord Harris proposed that it should be spelt with *k* at the beginning and *e* at the end. In that case he imagined that a person going in a shop and asking for the article would say "ker-eme." (Laughter.) Other substitutes had fancy names, such as "butterine" and "margarine." He believed that the name "margarine" was derived from the name of the wife of the gentlemen who invented it. There was at one time a poisoner named Neil Cream. He did not know what the name of his wife was, but it might be possible to find out and give the concoction under discussion that lady's name. He hoped that the substitution would meet with the approval not only of the Society but of other societies interested in agriculture.

Lord Bledisloe said that yesterday's debate in the House of Lords was exceedingly interesting. The Bill might be sent back, but he was sure that, for once in a way, the House of Lords had enormously improved a Bill that purported to be for the advantage of agriculture. As it came to the House of Lords from Another Place it was peculiarly unconvincing, and he did not think that in that form it would have done anything whatever to remove from the market—he would not say that because that would not happen—but to remove from the area of public suspicion an article which for some reason or other was called reconstituted cream, although it never had been cream and it was therefore difficult to see how it could be reconstituted. He hoped that calling it "artificial" would in some sort of way warn the purchasing housewife and afford some sort of protection to dairy farmers.

WEDNESDAY, JUNE 5, 1929.

Viscount Lascelles, K.G. (President), in the Chair.

The President said it was his duty to refer to the loss that the Society as a whole had sustained in the death of Mr. Coltman-Rogers. Mr. Coltman-Rogers, whose association with the Society had been a long one, was elected a member in 1883, and served on the Council under its old constitution from 1897 until the middle of 1905. At the end of that year he was elected on the new Council as representative for South Wales, and sat continuously since then. In the year 1918 he was elected a Vice-President.

His chief activities were exerted as Chairman of the Botanical and Zoological Committee since 1908 and as Steward of the Forestry section of the Show since 1909. His indefatigable labours to make that section an outstanding success, his personal interest in all appertaining to forestry, his keenness to secure entries for the Plantations Competitions and the Forestry Exhibition made his services to the Society not only invaluable but unique. He was the author of "Conifers and their Characteristics," which was published in 1920, and contained for the benefit of readers a great store of knowledge collected by him both privately and in his connection with the Society.

His Lordship was sure that it was the wish of the members that he should convey to the widow and relatives the sympathy that all felt for them in their loss.

The members present rose and stood in silence.

The following were elected as Governors :—William Burkitt, Grange Hill, Bishop Auckland; N. A. Heywood, Glevering Park, Wickham Market; Lord Louis Mountbatten, K.C.V.O., Brook House, Park Lane, W.; Lieut.-Colonel Sir Reginald Rankin, Bart., Bryngwyn, Hereford.

One hundred and four new members were admitted into the Society.

On the motion of Mr. ADEANE, seconded by Lord DARESBURY, it was resolved :—

> "That the Secretary be empowered to issue to any duly nominated candidate for membership of the Society, on receipt of the annual subscription, a badge admitting the candidate to the same privileges as a member during the forthcoming Show at Harrogate, the formal election of such candidate to be considered by the Council at their next ordinary meeting."

The Trustees of the Queen Victoria Gifts Fund reported that the interest on the Fund's investments, allowing for the rebate of income tax, at present amounted to £174 15*s.* per annum. The balance at the bank in the Fund's Interest Account now totalled £201 13*s.* 3*d.* For the ensuing year the Trustees recommended making a grant of £180 to be devoted to gifts to candidates as below, the distribution in each class to be left until after the election to pensions by the Royal Agricultural Benevolent Institution :—

Male Candidates.—Six gifts of £10 each.
Married Couples.—Three gifts of £20 each.
Female Candidates.—Six gifts of £10 each.

Including the grant now recommended, a sum of £3,500 has been paid over to the Royal Agricultural Benevolent Institution since 1906.

On a motion from the Chair, authority was given for the seal of the Society to be affixed to the agreement with the Manchester Corporation in respect of the Show of 1930.

WEDNESDAY, JULY 10, 1929.

VISCOUNT LASCELLES, K.G. (President), in the Chair.

It was unanimously resolved, on the motion of Lord DESBOROUGH, seconded by Mr. R. B. NEILSON :

That the best thanks of the Society are due and are hereby tendered to :

(1) The Officials of the General Post Office for the efficient postal arrangements in connection with the Show.
(2) The Chief Commissioner of Police for the efficient services rendered by the detachment of Metropolitan Police on duty in the Showyard.
(3) The Chief Constable of the West Riding for the efficient Police arrangements in connection with the Show.
(4) The St. John Ambulance Brigade, No. 5 (North Eastern) District, for the efficient Ambulance Arrangements at the Show.
(5) Messrs. Barclay's Bank, Limited, Local Bankers, for the efficient services rendered by their Officials.
(6) Messrs. Merryweather & Sons, Ltd., for the provision of Fire protection appliances, and for the efficient arrangements made by them in connection with the Fire Station in the Showyard.
(7) Messrs. Charles Walker & Sons, Ltd., of Parliament Street, Harrogate, for decorating and furnishing the Royal Pavilion and for supplying furniture for Offices.
(8) The Corporation of Harrogate for providing Floral Decorations.
(9) The Young Men's Christian Association for providing Refreshments and Reading and Writing materials and for organising Welfare Work for Stockmen and Grooms in the Showyard.

Letters of thanks were also ordered to be sent to various individuals and firms for assistance kindly rendered, and for the loan of articles for the purposes of the Show.

Mr. WILLIAM HARRISON said he would like to move that Mr. William Bainbridge be made an Honorary Life Governor of the Society. Those who were aware of all that Mr. Bainbridge had done for the Society would, he was sure, agree that such an honour was well deserved.

The motion was seconded by Mr. ADEANE, and carried unanimously.

Proceedings at the General Meeting of Governors and Members,

HELD IN THE LARGE TENT IN THE SHOWYARD AT HARROGATE,

WEDNESDAY, JULY 10, 1929.

VISCOUNT LASCELLES, K.G. (PRESIDENT), IN THE CHAIR.

The PRESIDENT, opening the meeting, said:—Although the Royal Show has been held in Yorkshire on seven previous occasions, this is the first time it has been held at Harrogate; indeed, it has never yet been held in a place quite like Harrogate. Ancient seats of learning, Oxford and Cambridge, first invited the Society to hold its country meeting in their towns, and since then large industrial towns have claimed the Show as more or less their particular property. Harrogate, though an agricultural centre itself, is better known to the world as a health resort for those who have spent their time in consuming rather than in producing this world's goods. (Laughter.) It was, therefore, somewhat of an experiment for Harrogate to invite the Society to hold its Show here and for the Council to accept that invitation. I hope, however, that at the end of the week the Council will be in the position to regard it as a successful experiment. (Hear, hear.) When the Honorary Director of the Show, Lord Daresbury, decided that it was about time that Yorkshire again received a visit from the Show, certain inquiries were made, but none of the large cities in the county could place the area of land required at the disposal of the Society, and then Harrogate came along and agreed to allow the whole of the Stray to be used for a showyard.

Although the site is only about 80 acres in extent, being less than half that usually occupied by Royal showyards, yet it has been possible to stage the Show without any curtailment, as the land is level and adaptable for showyard purposes.

The residents and visitors to Harrogate have been exceedingly kind in forgoing their privileges on the Stray—(hear, hear)—during the process of construction; some inconvenience to them was bound to occur, and I must thank them on behalf of the Society for their forbearance, and I hope that nothing will happen to prevent the clearance of the land after the Show, so that the amenities of the Stray may be restored to them at the earliest possible date.

The last Show held in Yorkshire was at Doncaster in 1912, and this will be remembered by some of you as a most disastrous Show, for on the evening before its opening the then Board of Agriculture made an Order prohibiting the exhibition of cattle, sheep and pigs in consequence of outbreaks of foot-and-mouth disease in the country, which had spread to Wakefield and other places not far from the showyard. Many of the animals had, of course, left their homes and the Honorary Director and his staff awaited the arrival of the trains and directed the immediate return of the animals to the farms. The animals already in the showyard were licensed back to their homes and reconsigned at once. This Show was held in a somewhat attenuated form in consequence, the only animals exhibited being horses, but the other sections—implements, forestry, produce, dairy and flower show, etc.—were undoubtedly interesting, as in spite of adverse circumstances over 90,000 people visited the Show. The Society, however, suffered a financial loss of over £1,200 on that occasion.

That Show was held under unusual conditions, but here to-day we have an excellent one held under favourable conditions, and I hope it is going to prove an enormous success. (Hear, hear.)

I do not want to bore you with any figures; you can obtain all those for comparative purposes from the catalogue, but a glance at the tables will show you that the entries for this Show are far above the average in every section. This of itself speaks well for the popularity of Harrogate as a centre chosen for the Show.

With all kinds of difficulties facing the organisers it requires a certain amount of courage to hold agricultural shows at all in these days. The weather is a most important factor. Trade depression in certain areas and agricultural depression generally keep people away, and we are always menaced by foot-and-mouth disease. I hardly dare breathe these words, for on the occasion of the last three general meetings in the Royal Showyard, at Reading, Newport and Nottingham, the meetings have only just been brought to a close when a telegram has arrived stating that an outbreak of foot-and-mouth disease has occurred in some part of the country necessitating the isolation of all animals from that area. Let us hope that this year I have broken the spell. (Hear, hear.)

The cordiality of the reception of the Show by the Corporation of Harrogate and the practical assistance afforded to the Honorary Director by the Local Committee, your Honorary Director assures me, has seldom been exceeded. (Applause.) These will be the subjects of Resolutions of Thanks in a few minutes. And although I should like to mention the names of a number of people who have worked so hard, I should be trespassing on the task of future speakers. Those concerned will, I hope, realise how personally I feel and deeply appreciate the assistance given.

Then, again, the County Society—the great Yorkshire Show—withheld its Show this year, and a special measure of thanks is due to them for this graceful act.

Further, the Harrogate Agricultural Society have also forgone their usual annual two-day Show. To them, too, I must tender on behalf of the Society our very grateful thanks.

It is a matter of regret to you all to learn that Her Majesty the Queen was almost at the last moment prevented from attending the Show. I think you all understand why Her Majesty the Queen nearly a fortnight ago could not bind herself to leave London and to leave the King on a fixed date.

You will all recognise that the news which you received on Monday of the King's postponed visit to Sandringham was not due to a sudden crisis in his illness, but was rather the recognition of the fact that His Majesty's progress towards convalescence is still slow, and that a long journey, such as that to Sandringham, could not at the present moment be undertaken by him.

Now, Her Majesty being unable to attend the Show, I approached H.R.H. the Duke of York to ask him to take the place that Her Majesty was going to fill on that occasion; and, at personal inconvenience to himself, he consented to do so. You will all, I know, give him a hearty welcome. He had an engagement in London late last night, and somewhere about midnight got into his train, where he slept, and only arrived at Leeds shortly after 9 o'clock this morning, travelling by night. I hope by this time he is safely at Goldsborough, but I have not yet seen him.

I should like to congratulate the Society and the local organisation upon the marvellous attendance of people yesterday. I know that the presence of the Duke of York will assure us of an even better attendance to-day, and I hope that we are going to create a record for post-war Royal Shows in our attendance.

I do not think this is the occasion to review the whole of the Society's work, which, as you know, is so many-sided, embracing Science and Practice, our Motto, but I have been asked to allude to a question which has recently received the careful consideration of the Veterinary Committee and in which we in this county are particularly interested. I refer to sheep scab. The number of outbreaks since the war has been increasing in spite of Orders and Regulations for dipping, and so on, issued by the Ministry of Agriculture and Fisheries, which are considered reasonable and adequate to meet the situation.

It is believed, however, that in some districts flock-owners do not round up and dip all the sheep, and on occasions do not properly immerse the sheep in the dip. Fines and penalties can be imposed for failure to comply with the Orders. I do not want to enter into any controversy as to what districts in particular are lax in this respect or suggest any more drastic penalties; rather would I appeal to the good sense of the flock-owners for their own protection and for the protection of their neighbours to carry out to the letter the regulations for dipping, and thus help not only to reduce the number of outbreaks, but eventually to eradicate the disease entirely in this country.

Before proceeding with the formal business of our meeting, I cannot refrain from expressing our most grateful thanks to Lord Daresbury, the Honorary Director of the Show—(applause)—who does so much year by year for exhibitors, members and others, and whose administration of the Royal Show has been a model for shows all over the world. I should also like to couple with his name that of Sir Harold Mackintosh, who has worked like a Trojan locally in order to ensure the success of this year's Show. He has had experience on the same lines with the Great Yorkshire Show, and he has put the full benefit of all that he knows into the work that he has done for us this year. Those two names especially I feel bound to mention, and I know you will accord them your sincere and grateful thanks when the time comes. (Applause.)

Thanks to Mayor and Corporation.

Lord HARLECH proposed the following resolution:—"That the best thanks of the Society are due, and are hereby tendered, to the Mayor and Corporation of Harrogate for their cordial reception of the Society."

As a Past-President, he said, he could testify as to how much the Society were dependent on the local authorities to see that everything was in smooth working order. He was given to understand that unusual difficulties had arisen concerning the exclusion of the public from their rights over the Stray. He believed, however, that the Mayor and Corporation had dealt with those difficulties with great success.

With regard to the ground, it was most compact, and he thought it should be a lesson to the Society in future as showing that such a large tract of land as was used in the past might be dispensed with. At Harrogate this year everything was handy, and one had only to go an unusually short distance to visit the various exhibits one wished to see. As one who did not live in Harrogate or the neighbourhood, he had always understood that it was a place for the healing of rheumatic ailments. He hoped, in future, that this year's Show would be looked upon as the commencement of the healing of the ills of agriculture.

Lord BLEDISLOE, in seconding the motion, said they were deeply grateful to the Mayor of Harrogate and those he represented in that enterprising and progressive town for all they had done. He hoped that the enclosure of part of the Stray for the purposes of the Show had caused no real inconvenience to the inhabitants of Harrogate. He would go further and would venture to express the hope that the bringing of people to the district to visit the Show might materially assist the trade of the town. Lord Harlech had expressed the opinion that their meeting at Harrogate might see the beginning of a definite improvement in their oldest and most important industry. He (Lord Bledisloe) was afraid that doses of sulphur water or doses of nitrogen and other chemicals were not alone going to restore their industry to a prosperous condition. Because the Royal Agricultural Society was a non-political organisation, no one more heartily desired the removal of agriculture from the field of political conflict than the members of the Society. Whatever sulphur did for the human being, he ventured to say that there could be no greater tonic to agriculture than if the present Government under existing conditions could point the way to making the industry no longer a matter of political controversy.

The vote of thanks to the Mayor and Corporation was heartily accorded by the meeting.

The MAYOR OF HARROGATE (Capt. Whitworth) said they had not heard much that morning about Harrogate except its sulphur water. He could assure the meeting that there was a good deal to be said about their town in addition to the sulphur water and its curative properties; although if the agriculturists were forbidden to grow barley then the great usefulness of Harrogate might "go west." (Laughter.)

They were very delighted to have the Royal Agricultural Society, and the wonder was that in all the years since its formation they had never thought of having the Show at Harrogate before. On the previous day a record attendance since 1920 had been put up, and they could have every hope that that day would follow in yesterday's train. There was one thing he would like to mention, and that was the good and efficient work rendered for the town and to the Royal Agricultural Society as well by their learned Town Clerk. He had worked night and day in the interests of the Show. There were others, too, in the Corporation who had worked night and day in the interests of the Show, including the Borough Engineer and his men. That was not a time for speech-making; he regretted that some of those present would have to listen to him again that night.

The whole of the forces of the Corporation were doing their level best to ensure that the weather would hold up for the remainder of the Show. (Applause.)

The TOWN CLERK OF HARROGATE (Mr. J. Turner Taylor) said he was grateful, and he felt amply rewarded by the meeting's acknowledgment of any services he had rendered to the Society. If the result of holding the Show at Harrogate was a success they would all be delighted that they had had the pleasure and privilege of helping the Society.

Local Committee Thanked.

Lord DARESBURY begged to be allowed to move: "That the best thanks of the Society are due and are hereby tendered to the Harrogate Local Committee for their exertions to promote the success of the Show." All those present, he thought, were aware of the very hard work necessitated by a Royal Show, but that would not be much good without an efficient Local Committee. For some things, everything depended on their efforts to make the Show a success. The resolutions of thanks to the Corporation and to the Local Committee rather overlapped. They were greatly indebted to the Mayor, the Chairman of the Local Committee, and to the Town Clerk, who had done everybody's work. The Town Clerk, Lord Daresbury said, was a very old friend of his and was born within two miles of his home. He did not think a better fellow lived.

In conclusion, Lord Daresbury wished specially to mention Sir Harold Mackintosh, who had done an amount of work for the Show which no one thought possible. He had found the money and he had found the time. As long as they lived they would remember Harrogate and Sir Harold Mackintosh. (Applause.)

Lord DESBOROUGH, in seconding the motion, said that preparations for a Royal Show entailed three years' work on the part of the Local Committee, and the Society greatly appreciated their efforts, which had been so successful. They had provided one of the best showyards the Society had ever had, it being so compact. He could only hope that they had laid on their excellent water to the showyard, in which case the cattle would go away at the end of the week much better for their visit to Harrogate. (Laughter.)

The motion was carried with acclamation.

Sir HAROLD MACKINTOSH, responding on behalf of the Local Committee, said he regarded it as an honour to reply, as it had been his privilege to work for the success of the Show from the local angle.

Lord Daresbury had mentioned that the two resolutions were mixed up: they were really one. The Local Committee and the Town Council had worked together as one body for the good of the Show. He desired to thank the President for coupling his name with that of Lord Daresbury; he could not think of any greater honour in agriculture than having his name coupled with that of the Honorary Director of the Royal Show. One could mention many names, for they were a most enthusiastic Committee from the first to the last.

The last vote of thanks included not only the Mayor—and the Committee could have had no better captain than Capt. Whitworth—but also the Town Clerk, and they could not have been better served than they had been by him as Hon. Local Secretary.

Harrogate had a population of only thirty or forty thousand, and therefore he had appealed to the county as a whole. Perhaps it was a coincidence that he had the honour to be President of the Yorkshire Agricultural Society. As President of the largest county show he welcomed the show of the largest agricultural society in the country to Yorkshire. There were many championships to be won, but he hoped that Harrogate might win the championship for a Royal Show attendance, and would set up a record that would be difficult to beat.

They had tried to interest Leeds and Bradford and the industrial towns of Yorkshire; whether they had succeeded would be proved in the next few days. They hoped that tens of thousands of industrial workers would come to see the Show, and they hoped that the mixing together of the industrial and agricultural population would help each to understand the problems of the other and would be for the benefit of both.

References had been made to the Harrogate cure, but doctors told them that one visit was no good. As far as the Local Committee were concerned the only thanks they asked was that the Society would pay a return visit. (Applause.)

Railways Thanked.

Mr. WILLIAM HARRISON, in proposing a vote of thanks to the railway companies for the facilities accorded by them, said he thought all would agree that the companies had done their work most efficiently. When they considered the valuable stock the railways brought to the Show it would be realised how much they were to be congratulated and commended.

Especially were their thanks due to the officials actually in charge of the work at the Show, which had been done most admirably.

Lord HASTINGS had much pleasure in seconding the resolution. In form, their thanks were expressed to the railway directors, but they had been earned by the subordinate officials and their able men for the manner in which they had dealt with the immensely valuable stock sent to Harrogate. He was glad to hear that in the unloading there had not been a single accident of even a minor kind to man or beast. That was a record of success and achievement of which the Harrogate railway officials and their men might reasonably be proud. The Society's thanks were due to them for the great care they had given to the stock which they all valued so highly.

The resolution was unanimously adopted.

Member's Suggestion.

The PRESIDENT having enquired whether any Governor or Member had any remarks to make or suggestions to offer for the consideration of the Council.

Capt. BERTRAM ROLFE asked whether it would be possible to get an extension of the period for the cheap railway tickets issued to members and exhibitors from the day before the Show to the Saturday preceding, as many of them had to travel on that day.

The PRESIDENT said the question would be submitted to the Council for their consideration another year.

Thanks to President.

Mr. LEONARD SUTTON moved a vote of thanks to Lord Lascelles for his services in the chair. He felt sure that they all wished to thank him for the way in which he had carried through the meeting that morning and particularly for his Presidential address. But what, he thought, they had most in their minds was not merely his Chairmanship of that meeting, but his great services as President of the Harrogate Show, for which both he and H.R.H. Princess Mary had shown such enthusiasm. They all hoped that it would prove to be one of the most successful in the history of the Society.

Mr. ROBERT HORNSBY, seconding the motion, said they all much appreciated the excellent services rendered by Lord Lascelles. They looked forward, also, to the visits of Princess Mary to adorn their Show and to make it a great success.

The vote of thanks was passed with acclamation.

Viscount LASCELLES, in acknowledging the vote, said he feared his services had been slight, but he had as President been very well served by some of the most efficient men to be found in the kingdom in the effort to make the Show a success. Those gentlemen had placed their services at the disposal of the Royal Agricultural Society, and he knew it was service which they rendered gladly—service to the whole country and second to none which anyone could render in any sphere.

There was only one thing needed to ensure that the fruits of their labours would be reaped, and that was good weather. He did not think that piping hot weather was as good for a show as the weather they were then having. If they could only manage to keep the weather sweet for the next three days he did feel that they might congratulate themselves on a really successful Show. (Applause.)

WEDNESDAY, JULY 31, 1929.

LORD DESBOROUGH, K.G. (Vice-President), in the Chair.

The following were elected as Governors:—Thompson Close, The Old House, Welbourn, Lincoln; J. E. Guthe, Kepwick Hall, Northallerton; Hubert Mansell, College Hill, Shrewsbury; John Shaw, Ballacree, Lezayre, Isle of Man; T. D. Straker-Smith, Howden Dene, Corbridge-on-Tyne; Sir Charles C. Wakefield, Bart., Wakefield House, Cheapside, E.C.; Mrs. T. P. Warren, Handcross Park, Sussex; Guy D. White, 1, Park Lane, W.

One hundred and ninety-five new members were elected.

Mr. ADEANE moved the adoption of the report of the FINANCE Committee with the exception of paragraph 3, dealing with Park Royal. With regard to paragraph 4, he was glad to be able to ask the Council to sanction the investment of so large a sum as £10,000. The Society had in reserve £1,652, and it set aside each year against possible loss on the Show £3,500. Happily, that would not be required. The exact surplus on the Harrogate Show was not known, but he was able to ask the Council to invest £5,000. Further, he would ask that permission be given to himself, in conjunction with the President, to invest any sums that might become available before the meeting in November. A sum of £2,000, possibly £2,500, was expected after the liquidation of Park Royal Estates, Ltd. £4,222 had been held in reserve pending a settlement of that matter, but, unfortunately, negotiations had failed, and that sum—now in a special deposit account—would later become available for investment. It was hoped that there would also be a further sum to invest from the Show.

Park Royal Drainage. Mr. ADEANE stated that last year, as the Council would remember, he went very fully into the details with regard to the unfortunate affair of Park Royal, which had been hanging round the Society's neck for many years, and was a legacy from as far back as 1903. What he had then said had been fully reported in the JOURNAL, and he did not think members would wish him to repeat it. By a resolution of the Council on Wednesday, February 1st, 1928, the Solicitors of the Society were authorised to settle an agreement between the Acton and Willesden Urban District Councils, the Society and others to determine the agreement of 1903 at a figure not exceeding £12,000, provided that the Willesden Council agreed to limit its expenditure to £4,000 and the excess drainage ratepayers agreed to bear their share of the £12,000. It was estimated that the share of the Society would be £5,000, and this amount was authorised by the Council. Under the 1903 agreement the Society undertook to pay the Willesden District Council the difference between the Willesden drainage rate and the Acton drainage rate, Acton agreeing to drain the land at Park Royal. That represented the excess drainage rate referred to. Unfortunately, the negotiations had failed, as the Willesden Council had declined to accept the limitation of £4,000, and required a complete indemnity against all expenses, whatever they might be. This the Finance Committee could not advise the Council to agree to, and, in consequence, the Society must continue to pay such part of the excess drainage rates as could not be recovered from the owners of the land in Park Royal.

It was now proposed that the liquidation of Park Royal Estates, Ltd., should be completed, the £2,500 cash in the hands of the liquidator being handed over to the Society, the Society having assigned to it the benefit of all the covenants entered into by the purchasers of the Park Royal land. The Society would then deal direct with the excess drainage ratepayers, and would have the income from the £2,500 towards the proportion of the excess drainage rate it was unable to recover from the owners of the Park Royal land.

The estimated annual cost to the Society was between £250 and £300 per annum. Against that, however, the Society would be able to put the interest on the £2,500, leaving a net annual charge on the Society of about £150.

It would be necessary for the Society to arrange to collect from the excess drainage ratepayers their proportion of the excess drainage rate, which the Society would, in the first instance, have to pay, but this should not be a difficult matter.

The Finance Committee recommended that the proposed arrangements should be carried out so that the moneys in the hands of the liquidator of Park Royal Estates, Ltd., might be handed over to the Society with an assignment of the benefit of the covenants of indemnity entered into by the purchasers of the lands in the Park Royal area with Park Royal Estates, Ltd.

He would move, therefore:

> "That the Solicitors of the Society be authorised:
> (*a*) to abandon the negotiations for determining the agreement of 1903, and
> (*b*) to arrange for the assets of Park Royal Estates, Ltd. (including the covenants of indemnity entered into by the purchasers of land in Park Royal with the company) to be made over to the Society."

Mr. U. ROLAND BURKE seconded.

Lord BLEDISLOE said that as he had been acquainted with the matter for some time he would like, as an ordinary member of the Council, to say that he thought the Society was very much indebted to Mr. Adeane for the immense amount of time and trouble that he had put into an attempt to settle the question on an equitable basis. He had some reason to know the amount of work which Mr. Adeane was doing three years ago when there appeared to be a reasonable chance of the local Councils treating the Royal Agricultural Society with greater equity. Indeed, the active sympathy of the then Minister of Health, Mr. Neville Chamberlain, had been obtained. As had been pointed out, and the Solicitors agreed, the Councils, after all, in these matters were their own masters and were not susceptible to any large degree of pressure from a central Government authority. He was bound to say that it was most unsatisfactory for the Society to have an undefined liability on its shoulders, and he was sure that the Council would welcome the fact that now the Society knew where it was.

Major CLIVE BEHRENS asked whether the Society had money in hand, or would it have to pay an annual sum?

Mr. ADEANE replied that there was no money in hand at present, but it was hoped that after the completion of the liquidation there would be £2,500. The excess drainage rate would come to anything from £250 to £300 a year, and against that could be set the interest received on the £2,500. The annual charge, which could not be escaped from, would be £150 to £170.

Replying to a further question by Major BEHRENS, Mr. ADEANE said that the Society could not get rid of the land by sale. It was not their land, but he would ask the Solicitor to explain the position which arose.

Mr. MARSTON, of Messrs Garrard, Wolfe and Co., stated that the land had been sold to the Park Royal Estates, Ltd., which developed the land and sold it to a number of sub-purchasers. There were the usual covenants of indemnity, and owing to a certain number of the purchasers going into bankruptcy or liquidation the covenants were broken. Where the chain was complete the Society could recover all the way down. In one or two cases in recent years arrangements had been made to replace breaks in the chain. With regard to F. W. Berwicke and Co., the chain was broken, and the present owners of the land would not pay the difference between the Acton rate and the Willesden rate. Under the original covenant the Society had to meet the loss, and unless it could be arranged otherwise the covenant continued for all time.

Major BEHRENS asked whether there was any possibility of compounding.

Mr. MARSTON replied that there was not. There had been an attempt. The arrangement had actually been made with the Acton Council for the payment of £8,000. The Willesden Council, having arranged to take the drainage, refused to accept a maximum payment of £4,000, and required an indemnity from the Society for all the expenses in connection with the drainage. Arbitration proceedings with the Poor Law authorities might have been involved and several thousands of pounds of expense incurred. The Society could not be advised to accept that position.

Sir ARCHIBALD WEIGALL thought that the charge might be an increasing one. The local authority might be progressive with regard to the expenditure of money.

Mr. Marston agreed. Nine or ten years ago, when an attempt had been made to deal with the question, the excess drainage rate was comparatively small. It had gone up gradually, and now it was about £250 a year. The figure depended on the rates in Acton and in Willesden.

Sir Archibald Weigall: What the Solicitor had said confirmed the view that there had been a cloud of ambiguity over the whole matter. He thought that it would be unjustifiable to keep the Society in the position of hanging over the edge of a precipice. He would suggest that the local authorities should be asked to agree to submit the whole question to an arbitrator to assess the capital sum at which the whole matter could be settled once for all when all of the facts had been considered. He could not conceive that the Ministry of Health would not assist in referring the question to arbitration.

Mr. Fenwick: It seemed to be a question of "Heads you win; tails we lose." Was it ever going to end?

Mr. Adeane stated that the proposed arrangement was better than what the Council had previously passed. He thought that it would be no good to go to arbitration. The whole question had been thoroughly gone into, and everything that could be done had been done. He thought that the resolution represented the best arrangement that could be arrived at. It did not in the least prevent any arrangements being made in the future if occasion arose.

Colonel Stanyforth agreed. If it was seen that the rates were rising to an appreciable extent an effort could be made to make another arrangement. He believed that every avenue and every channel had been explored very carefully indeed. He was sure that the capital sum that would be required would be very large. As had been stated, the suggested arrangement would not prevent any arrangement in future. He thought that the Council were getting off very cheaply.

Lord Bledisloe: The tangle was great, and it was impossible to unravel it by way of explanation in five or even ten minutes at a Council meeting. The position was a very unfortunate one from the point of view of the Council. From what he knew they were nearer to unravelling the tangle than they had ever been before. Instead of a wholly nebulous and possibly very large annual liability which might increase, the Society was reaching a point at which they could estimate what the liability was likely to be, whether it took the form of an annual payment or a compounded payment. He would emphasise the point that the Park Royal Estates, Ltd., had been eliminated from the tangle. That was very important. It was a great advantage to be able to go direct to the district councils. A very earnest attempt had been made to agree to the composition at a reasonable capital figure, but it was ultimately found that it would be undesirable to continue the effort, as it might land the Society in a very much larger capital liability. It looked as if in a short time the Society might be able to make a better bargain than had been possible up to the present. He was sure that the Finance Committee would keep a watchful eye on the petition.

The resolution was then adopted.

The Chairman, in accordance with Bye-law 118, moved:—

> "That the Common Seal of the Society be affixed to any documents necessary for carrying out the arrangements for taking over the assets of Park Royal Estates, Ltd., and giving release to the liquidator of that company."

Mr. Adeane seconded the motion, which was carried.

It was resolved, on the motion of Mr. Adeane, seconded by Lord Daresbury:

> "That in order to facilitate the winding up of the accounts of the Harrogate Show as early as possible, authority be given for the issue during the recess of orders on the Society's Bankers for the payment of accounts connected with the Show."

Mr. BROCKLEHURST, moving the adoption of the Report of the CHEMICAL Committee, said that the Committee had not lost sight of the question of barley meal. All he would say at the moment was that they considered it of great importance, having regard to the very unfair position in which the home producer was placed by the new Feeding Stuffs Act in comparison with the producers of barley from abroad. They felt that the matter was one of such importance that they proposed to seek an interview with the Minister of Agriculture on the question.

Lord BLEDISLOE said the report mentioned a rather unfavourable analysis of certain magnesian limestone when converted into lime. He thought he was right in saying that the fear of damage from a certain percentage of magnesia was, in the opinion of the experts, to some extent unfounded. The greater part of England to-day was shouting for lime, and it would be very unfortunate if those who had lime on their land with a small percentage of magnesia were deterred from burning it for fear of injury to crops.

At this stage the chair was taken by Lord Daresbury.

The Report of the STOCK PRIZES Committee having been presented, Mr. FENWICK raised the question of the exclusion of a foal at the Harrogate Show, because the mare had been rejected. A few years ago the same thing had occurred in the case of a mare which had been passed by the Hunters' Improvement Society and had been shown constantly. In the case in question the mare might have been rightly turned down but he considered that the foal might have been allowed to be shown. He thought that the matter should be considered by the Stock Prizes Committee.

The CHAIRMAN stated that the Sub-Committee would go into the whole question.

Mr. FENWICK said that that being so he was satisfied.

Mr. NEAME said that dissatisfaction existed in connection with the system of single judging, particularly amongst certain breeders in Kent, who felt that the responsibility laid on the Judge at the Royal Show was a very heavy one. The export trade to some extent depended on the result of the judging, certain buyers being determined to buy the prizewinners at any price. It was felt that the responsibility of selecting the winner was too heavy for one man. It might also be pointed out that while one man was judging the females the other Judge, who was merely standing by, might reasonably share the responsibility.

Further, the point was raised that it was very difficult to get a panel of six from whom to select two Judges for the Royal. The leading men were probably showing, and the six might include possibly two with whom breeders as a whole were not entirely satisfied, and the judging might be left to one of the two. He would suggest that an alteration of the system be considered by the Sub-Committee when it next met.

The CHAIRMAN said this matter would be referred to the Sub-Committee when they met in October.

Lord DARESBURY, in presenting the report of the Committee of SELECTION AND GENERAL PURPOSES, said he was sure that all present would be very pleased that Lord Lascelles had been made a Vice-President. No President could have done more than he did to make the Show at Harrogate a success. He would like the meeting to instruct him to write to his Lordship to thank him, and also to thank Princess Mary for what she had done. The Princess had been at the Show every day from morning to night, and had even gone to Harrogate the day before the opening to see how things were getting on. He felt that the Society owed Princess Mary a debt of gratitude for the interest that she had taken and the enthusiasm that she had created locally.

This was agreed to by acclamation.

Colonel STANYFORTH moved a vote of thanks to the Royal Automobile

Club for the way in which it had managed the parking of cars at Harrogate. Perhaps it was not generally known that this was the first year that the Club had done the work for nothing. The arrangements were extremely good, and better than they had ever been. He thought that the Society owed a deep debt of gratitude also to Mr. Burke for going into the matter with the Royal Automobile Club and to the local police concerned with the management of the parking.

Mr. BURKE seconded the motion, which was adopted.

Lord BLEDISLOE wished to make a personal appeal in connection with the Empire Farmers' Tour to New Zealand, of which he had consented to act as leader. The tour would start in the middle of next January and proceed viâ the Panama Canal. He had been given to understand that in Canada, South Africa and Australia a big effort was being made under Government auspices to select men who were really agricultural authorities to join the British representatives in an effort to make the tour a success. He would ask the Society to do what it could to give the tour the authority, prestige and distinction from the point of view of British agriculturists which he was sure it deserved. They were assured of a very warm welcome by the Government of New Zealand. Every comfort would be provided by the Government and every facility given. The High Commissioner had expressed the very earnest desire that the British representation should be at least as authoritative and representative as the representation from overseas would undoubtedly be.

He would inform any who were hesitating because they were not good sailors that the boat selected was a very good and steady one, and would travel over a part of the Atlantic which was normally very smooth. In addition the boat would carry a very good cargo. There was no doubt that New Zealand could teach something in the matter of the marketing and organisation of dairy produce. For that, if for no other reason, he thought that there should be a good representation of British agriculture encouraged by the Royal Agricultural Society.

As an extra inducement he would state that the normal fare would be reduced by something like 33 per cent.

In presenting the report of the DAIRY AND PRODUCE Committee Mr. BURKITT said that hitherto gold foil had had to be used on bottles of cider when exhibited. An expert had assured him that there was no practical reason why silver foil, which was equally efficient, should not be used. It was merely a question of taste. The Committee, therefore, recommended that in future the use of silver foil as well as of gold foil should be allowed. There must be foil on the bottle for the sake of the appearance.

Cheap Railway Tickets. The SECRETARY stated that Captain Rolfe, at the general meeting in Harrogate, had raised the question whether it would be possible to get an extension of the period for the cheap railway tickets issued to members and exhibitors from the day before the opening of the Show to the Saturday preceding. He (the Secretary) had communicated with the railway authorities. There was a further question regarding people who wished to travel beyond the place of the Show or not to proceed so far, although they were actually going to attend the Show. Another point was that vouchers were granted not only to members and exhibitors, but to managers and principals of firms or other representatives of exhibitors. The position needed clarifying. He had received a formal acknowledgment, which said that the matter would be placed before the railway companies in conference.

The CHAIRMAN did not think that anything more could be done at present.

WEDNESDAY, NOVEMBER 6, 1929.

LORD HARLECH (Trustee) in the Chair.

The CHAIRMAN: My lords and gentlemen, I am sure that before we begin our proceedings to-day it will be your wish that I should propose a vote of sympathy with our President in the loss that he has sustained by the death of his father, the Earl of Harewood, who, although not a member of the Council, had been a Governor of the Society for many years. I ask you to rise in your places.

The members present stood in silence.

Mr. WILLIAM STEPHENSON, 694, Oldham Road, Newton Heath, Manchester, was elected a Governor, and 27 new members were admitted into the Society.

In presenting the Report of the FINANCE Committee, Mr. ADEANE said that although the usual accounts would be laid before the Council at the next meeting, he was sure that members would like to know approximately what the profit of the Harrogate Show was. It was in the neighbourhood of £8,795. The Council would remember that at the last meeting authority was given for £10,000 to be invested; and it had been left to the President and himself to invest further sums if thought necessary during the recess. An additional £8,000 had, therefore, been invested, and the Society had also received £2,500 on the liquidation of Park Royal Estates, Ltd., which, he was glad to say, had been at last carried out. The Committee asked that this sum should be invested in the new Conversion Loan.

With regard to the conversion of the Society's holding of £18,000 in 5 per cent. War Loan he wished to say a word. He understood that for the purposes of conversion the holders of War Loan must subscribe for an amount of new stock equal to the amount of War Loan to be converted. Therefore, if it was desired to convert the £18,000 application must be made for £18,000 worth of new stock. He was not quite sure when the application had to be sent in, but thought that it must be before November 15th. He begged, therefore, to move:

> "That the Chairman of the Finance Committee be empowered, in conjunction with the President, to make arrangements for the conversion of the Society's present holding of 5 per cent. War Loan into the new 5 per cent. Conversion Loan if considered desirable."

Lord DARESBURY seconded the Resolution, which was carried.

Lord HASTINGS, in moving the adoption of the report of the BOTANICAL AND ZOOLOGICAL Committee, called attention to the paragraph dealing with the negotiations with the Royal English Arboricultural Society. It was becoming increasingly evident that the Forestry section of the Show was likely to expand, because increasing interest was being taken in forestry by members of the Society and by visitors to the showground. Possibly in due time a suggestion might be made to the Council for an alteration of the reference to the Committee and of its name. That question would come before the Selection Committee before anything further was done. The Council would be glad to hear, as they had done from the report, that negotiations were in progress with the Royal English Arboricultural Society for their active assistance in the improvement of the Forestry Exhibition at the Royal Show, and possibly, also, in the organisation of the Plantation Competition. The late Chairman of the Committee, Mr. Coltman-Rogers, whose death every member of the Council deeply regretted, was able to give an immense amount of personal attention to the matter. It was very doubtful whether anybody succeeding him would be able to give such great attention. Without the active assistance of the R.E.A.S. it would be almost impossible to maintain the standard of forestry exhibits at the Show, to say nothing of improving it. The R.E.A.S. would meet that afternoon in that building, and would have a letter laid before it, drawn up by the Botanical and Zoological Committee, which, he hoped, and confidently felt, would lead to very close co-operation with that powerful and influential Society, and he trusted that the result would be that at succeeding shows not only would they have the advantage of the assistance of the Society in collecting and selecting exhibits but, which was far more valuable, of qualified members of the R.E.A.S. in attendance at the Forestry section. He looked forward to those qualified members being in sufficient numbers to be able at all times to answer the immense number of questions which the general public put to the staff in the section. In that way a long-felt want would be supplied, and he hoped that the idea would come to maturity.

Lord DARESBURY, presenting the Report of the Committee of SELECTION AND GENERAL PURPOSES, congratulated the Society on having persuaded Mr. Burke to take his place when he retired after the Manchester Show. Nobody in that body was more capable of doing the work than Mr. Burke, whose great business ability and agricultural knowledge made him an ideal man for the position. He was sure that Mr. Burke would do everything in his power to make the shows a success. His lordship would always be glad to help Mr. Burke at any time if he needed assistance, but he did not think he would need it. Members might be sure that he (Lord Daresbury) would do anything that he could to make things go easily. He thought that they were all to be very much congratulated on having such a man as Mr. Burke to occupy the position.

Mr. BURKE expressed his most sincere thanks for the very great honour the Council had done him by adopting the recommendation of the Committee that he should succeed Lord Daresbury. He could assure members that he appreciated it most highly. When the Committee approached him to know if he would allow his name to go forward he had very great doubt whether he ought even to consider it, although he appreciated most sincerely the fact that they thought it worth while to put it forward. He felt that there were many on the Council who were far more fitted for the post than he was, and that he really had not the necessary qualifications. They would all agree that Lord Daresbury had during his reign set a very high standard, and he (Mr. Burke) felt that certainly he had not his lordship's great organising ability, his personal charm, and the qualities which had made his years of office such an extraordinary success. It was not for him, and now was not the time, to refer to all that Lord Daresbury had done and to the enormous debt of gratitude which the Society owed to him for his work in all the years. When Lord Daresbury laid down the reins of office they would miss him. All who had worked under him and been closely associated with his work at the shows appreciated what he had done, and looked forward every year to going to the Royal Show and spending a happy time under his lordship's régime. There had always been great appreciation of his work. A terrible blank would be left when he gave up, and an almost impossible task would be placed on his successor. Certainly he (the speaker) did not feel at all competent to fill the position and carry on the work in the way in which Lord Daresbury had carried it on. He had had very seriously to consider his private position, having regard to his work in his profession and his obligations to those whom he served. It was only through the very great kindness and consideration of the Duke of Devonshire when the proposal was put before him that he was able to consider accepting the position. That and the very kind promise of advice and help made by Lord Daresbury, and the very kind offers of assistance given by many of his old friends on the Council, had decided him to consider it, and eventually induced him to accept. He only hoped that when the time came for him to take up his duties, not only would the Council but the members of the Society be indulgent in regard to the many mistakes and blunders that he was certain to make. He could assure the members that he would put all his energies into the work and do everything in his power to carry out his duties to their satisfaction. He would again thank the meeting very sincerely.

The Report of the RESEARCH Committee having been presented, Sir MERRIK BURRELL said that, as the Duke of Devonshire had had to leave the meeting yesterday before the discussion on drill trials was concluded, he would say a word. He thought that the Council should know exactly how the matter stood at the moment. They would all understand that for a crop to grow to the greatest advantage each plant should have sufficient room, but no more. The trials which had been carried out over a series of years at considerable expense had shown beyond any dispute that there were imperfections in the drills which they were accustomed to use, both with regard to the work which they did laterally and the work which they did longitudinally. By that he meant that each coulter did not do the same work and did not put the seed evenly along the drill rows. He did not want to go into the matter in detail, because when the report was published members would have all the details before them. With a modified method of drilling it had been proved at Sprowston that by reducing the lateral imperfection as far as possible an increase of crop up to about 10 per cent. could be obtained, and that was not an increase that the farmer could afford to ignore. If implement manufacturers by improving their drills could permanently remove the lateral imperfection as had been done in a rather rough and ready way at Sprowston (it could not be done in any other way with the drills at their disposal) and at the same time remove the longitudinal imperfection, which had not been touched at all up to the present, it having been impossible to do so, he thought that they could look forward to a very important increase in the yield of crops comparable with the increase that had been obtained by more careful manuring and improvement in the varieties of plant grown.

He would point out that the experiments had only been made with barley and had not been carried out with wheat or oats. It seemed reasonable to think that the improvement found in the growing of a barley crop might be found more or less in the growing of wheat and oats. The Research Committee felt that it had done its part and that the problem had now become a technical one for implement engineers, and that therefore it came within the scope of the Implement Committee to take up the work where the Research Committee laid it down. Colonel Stanyforth had very kindly attended the meeting yesterday and had undertaken, when time allowed, that his Committee should go into the question and go on with the work. That was a matter of very great satisfaction to the Research Committee, who felt that otherwise the time and money spent in the past might not bear fruit. He need hardly say that if in the future his Committee could help the Implement Committee in any way by their experience in the past they would be only too delighted to do so.

He would like to express thanks to Mr. Rayns, the Director of the Norfolk Station, and his staff for the enormous amount of trouble and care that they had taken in working out the trials and in drawing up the report which the Committee had before it yesterday. Unless one had seen them conduct the tests it would have been impossible to imagine the tremendous amount of work involved in making the many thousands of tests which had been conducted. He was very grateful to Colonel Stanyforth for kindly undertaking to go on with the work which had been started.

Colonel STANYFORTH thought that it was an excellent thing that the Research Committee was going to issue a report on the subject. The report would be in the hands of agriculturists and implement makers, and, naturally, would be discussed by the Implement Committee to see what could be done. On the face of it, speaking without having read the report and only having heard what he had heard yesterday and in previous discussions, as it was a long time since there had been trials of drills, he should think that during the lapse of years certain things might have occurred to implement makers which would go some way towards eradicating the evils in drills at the present time. They were only too anxious to do what they could. If there was a desire for the trial of seed drills they would be ready to carry out tests.

Lord HASTINGS raised the question of the publication of the information which had been laid before the Research Committee. The document which had been before that Committee was far too voluminous to circulate to individual members or even to newspapers in the form in which it now stood. He had arranged provisionally for the Norfolk Agricultural Station Committee to issue a précis of the report to the implement and machinery journals before Christmas, so that machine makers might have early information of what was in the air, interest thus being worked up in the subject. In the early spring, or, perhaps he should say, the late winter, February, it should be possible for a further précis of a slightly different character to be placed in the hands of the Secretary of the Society for issue in the "Occasional Notes." It should be written in a form that was readable by the agricultural community, and also in a technical and scientific manner for the use of the *Journal of Agricultural Science.* In that way it would reach all three sections of the agricultural community—those concerned with the manufacture of implements, those concerned with the use of implements, and the scientist who took particular interest in the whole problem not essentially from the practical point of view, but with the practical point of view as the main eventual objective. He thought that that course was best calculated to bring the matter forward for general information. It was hoped that sufficient interest would be aroused to make it more easy for the Implement Committee to take up the matter in due course.

Sir MERRIK BURRELL presented the Report of the QUARANTINE STATION Committee. The station, he was glad to say, continued to run smoothly and to carry out efficiently the work for which it was intended. In the past six months about 293 animals had passed through, and since the opening of the station about 836. He therefore thought that they had begun to relieve the pressure on the live-stock industry to some extent. The work would not have gone on as smoothly, without the sympathetic co-operation of the Empire Marketing Board, and he would like to say a word of thanks to Mr. Tallents, the Secretary of the Board, for the kind and sympathetic way in which he had always met them and carried on any negotiations that had to be conducted with him.

The Veterinary Department of the Ministry of Agriculture had all through from the early days of the station been most helpful. If the Department had been in the least obstructive and had not been entirely sympathetic the station could not have run as easily and smoothly as it had been doing.

The annual report showed that when the station was first started the Empire Marketing Board was asked to budget for £3,250 for annual maintenance. In the first year they had had to put up only £1,010 because the station had run efficiently and had thus saved £2,240. It was never thought that if the station ran at all properly £3,250 would be necessary, but the budget had to be prepared to meet the worst. If foot-and-mouth disease became so bad in this country that people refused to take cattle at all, or if the scheme had failed to be appreciated, of course the position would have been very different, but he was glad to say that at the present moment the cost to the Empire Marketing Board only very slightly exceeded, if it exceeded at all, the amount of the rent and rates. In other matters the station was running itself.

WEDNESDAY, DECEMBER 11, 1929.

The EARL OF HAREWOOD, K.G. (President), in the Chair.

The Hon. Richard William Legh, Lyme Park, Disley, Cheshire, Major George A. Seymour Mead, St. George's Hall, Hulme, Manchester, and Mr. W. S. Tetley, Drury Lane Farm, Redmarley, Newent, near Gloucester, were elected Governors, and 8 new Members were admitted into the Society.

Mr. ADEANE moved the adoption of the Report of the FINANCE Committee, with the exception of the paragraph dealing with the Show accounts, which, he stated, he would deal with separately. The Report, with this exception, was adopted.

Mr. ADEANE said that seldom had a more successful show been held by the Society than the show at Harrogate, looked upon either as an exhibition of live stock or of implements. The financial result, which had exceeded all expectations, had only been surpassed five times in the history of the Society. He would rapidly compare a few Harrogate Show figures with those of the previous show at Nottingham. The total receipts at Harrogate amounted to £58,600 against £51,096 at Nottingham, a total increase of £7,504. Of that increase £5,124 was due to the "gate." The garage showed an increase of £1,212 and the flower show of £959. The expenditure amounted to £49,804, against £50,374 last year, and showed a decrease compared with Nottingham of £570. The total profit was £8,796.

They all knew that there were a great many who contributed to the success of the Show, and on this occasion none had contributed more than the President, the Earl of Harewood, and Her Royal Highness Princess Mary, both of whom gave the Society a very warm welcome to Yorkshire, and attended on every day of the Show. (Applause.) They were also very much indebted to the Duke of York, who had, at great inconvenience to himself, taken the place of Her Majesty the Queen, who was unable to attend. (Applause.) He specially wished to mention the name of Sir Harold Mackintosh, the Honorary Treasurer of the Local Committee, whose advice throughout had been invaluable, and he thought that, without exaggeration, he might say that the success of the Show was very largely due to Sir Harold's efforts. (Applause.) The Society was indebted to Lord Daresbury, their Honorary Director, whose shortening term of office was a matter of very great regret to them all. Further, they were indebted to Mr. Turner, their indefatigable Secretary, and to the Stewards, who gave their services during the Show so willingly. (Applause.)

The remaining paragraph of the Report was then adopted.

In presenting the Report of the CHEMICAL Committee, Mr. BROCKLEHURST said that members would have heard that the deputation to the Ministry had taken place. It had attended the Ministry with a view to getting a clearer definition of barley meal. The representatives of the Ministry were very sympathetic, and said that it was desirable that anybody buying barley meal should have pure barley meal, and they also said that the views of the deputation would be laid before the Advisory Committee. That committee had met, but no official report had been received. He would therefore content himself with saying that the matter was receiving further consideration, and that he hoped to bring it up at the next meeting of the Council.

In presenting the VETERINARY Committee's Report, Sir MERRIK BURRELL said he was sure it would be gratifying to the Council to feel that their campaign against sheep scab had, generally speaking, been successful, because the position to-day was materially improved compared with that of last year. But the case reported from Norfolk emphasised how careful people should be in the movement of sheep. Somebody, by being careless, moving only one ram, had practically dislocated the sheep trade of the whole county of Norfolk, and everybody owning sheep in the county was at present under a cloud and experiencing considerable anxiety. He was sure that all the members would share the hope that whoever the delinquent was he would be traced and properly dealt with.

The suggestion which had been made that the President should make some reference to the campaign against warbles arose from the fact that the Leathersellers' Company was taking active steps to see if something could not be done to get rid of the pest. If his Lordship would be kind enough to ask the members of the Society at the Annual General Meeting to help in every way they possibly could, not only by eradicating grubs from their own cattle, but by urging others in their neighbourhood to do the same, he was sure he would be doing extremely good work.

With regard to scrub bulls, it became known to the Society a little time ago that the new Minister of Agriculture was loath to proceed with the Bill which had been drafted to eliminate the scrub bull owing to the fact that he was not assured that he had sufficient farming opinion behind him to justify him in so doing. The Veterinary Committee therefore felt that it would be wise for that important Society once more to express its approval of the principle of the elimination of scrub bulls, of course withholding approval of the Bill until it had been seen. He would suggest that a letter to that effect should be sent from the Society to the Minister of Agriculture. Obviously, more and more of the land of the country was going down to grass, and with the present surplus of milk, unless improved stores that could be raised profitably were bred, the problem of how to farm medium-class grass land would be accentuated.

He would call the attention of the Council to the very serious state of the Royal Veterinary College. It was no exaggeration to say that, unless the problem was tackled, and tackled properly, in the next few months, within the next few years the College would have to close. He need hardly point out to a body like the Society what a very serious matter that would be, not only to farming interests but to the general sanitary corps of the whole country, if he might put it so. The call for properly qualified veterinary surgeons increased all over the Empire every year, and the call could not be met. The demand for research work in various problems increased every year, but properly educated men could not be found, and men could not be educated unless proper professors were attracted and paid properly. For years this country had neglected the veterinary profession, and, through that neglect, looked like suffering very severely in the future if the problem was not tackled.

He was glad to say that lately probably the best lot of cattle that had ever been in the Quarantine Station had been put through, and were now on their way to Australia. He hoped that they would not suffer too severely from the terrible storms. The animals were insured for about £11,000, and were a very excellent lot, chiefly Shorthorns, Jerseys, Aberdeen-Angus, and Herefords.

Might he take the opportunity of congratulating Lord Bledisloe on his appointment of Governor-General of New Zealand. He would most respectfully suggest to his Lordship that when he got to New Zealand he should try to solve the problem of why New Zealand was not following the very active steps which Australia was already taking to improve her herds.

Lord BLEDISLOE said that he had intended to say a word on the subject of scrub bulls. The last remark of Sir Merrik Burrell compelled him to say that, as, of course, would be understood, as the representative of His Majesty the King in the Dominion of New Zealand he would have to be a little careful about interfering in any way with the policy of the New Zealand Government. His sympathies in this respect were, however, perfectly well known, and possibly—well, should he leave it there? (Laughter.) There was no subject upon which the Ministry of Agriculture, as he had reason to know, felt more strongly than that of the elimination of scrub bulls. All present must realise that the competition which was felt in every department of the live stock industry in this country from overseas—he used the word "overseas" deliberately, because sometimes it was from a foreign country like the Argentine and sometimes from our own Dominions—was very largely due to the fact that we had in this country far too many indifferent cattle as the result of scrub bulls being employed. He was sure that all enlightened agricultural opinion must be in favour of eliminating scrub bulls if it could be done. There was, as his Lordship knew, a very strong feeling against anything that interfered with the liberty of the subject. It was abhorrent to the minds of Englishmen; but, after all, in this matter, as in many other directions now, we had to submit to legislative interference with our liberties, and if in the long run it was in the interest of stockowners and of the country generally, it was the proper course to take. The experience of Ireland in this connection was very remarkable. Since the Department of Agriculture in Ireland had taken steps by Act of Parliament to eliminate scrub bulls, they had been disappearing at an almost unthinkable rate, to the very great advantage of the stock of that country. He had been wondering whether it would be possible for the Royal Agricultural Society to make known, not only to its members but to the public generally, the striking figures that Ireland could show as the result of the action which had been taken. He thought that that might do much to render farmers generally in this country more amenable to that type of legislation which was for their own good.

The Report of the SHOWYARD WORKS Committee having been presented, Lord HASTINGS expressed the hope that the decision of that Committee on the subject of accommodation for the Royal English Aboricultural Society stewards might not be regarded as absolutely final. It was possible that he might have a suggestion to make at the February meeting which might induce the Committee to revise its decision. He merely made that provisional remark in view of the fact that possibly the question might be raised again.

The Report was adopted subject to the understanding that the Showyard Works Committee would confer with the Botanical and Zoological Committee.

The Report was presented of the Committee of SELECTION AND GENERAL PURPOSES, including a recommendation that a Sub-Committee—consisting of Lord Daresbury, Mr. Adeane, Colonel Stanyforth and Mr. Burke—be appointed to consider matters in connection with future shows after 1931, places where such shows should be held, and the financial arrangements concerning them. Lord DARESBURY moved that the Report be adopted, and proposed that Mr. Crutchley's name be added to the Sub-Committee if that was the pleasure of the Council.

The PRESIDENT said that before putting the motion he would like, on behalf of the Council, to welcome two new Members who were attending for the first time that day—Lord Strafford and Lord Stanley. (Applause.) He was sure that all the members would entertain the hope that those two gentlemen would attend frequently and take an active part in the business of the Council.

Lord Daresbury, the President continued, had proposed that Mr. Crutchley's name be added to the Sub-Committee in connection with future shows after 1931. Was it the pleasure of the Council to adopt the Report with that addition?

The Report, with the proposed addition, was adopted.

In moving the adoption of the Report of the RESEARCH Committee, Sir MERRIK BURRELL said he would like to make it quite clear that in future anybody requiring cultures for the inoculation of lucerne seed should apply to Messrs. Allen and Hanburys, Ltd., with whom arrangements had been made for supplying cultures as approved by the Rothamsted Station and the

Research Committee at 1*s*. 6*d*. a tube, each tube containing sufficient to inoculate 14 lb. of seed. The research work which the Committee had done on lucerne during several past years had proved conclusively that the inoculation of the seed not only made it possible to grow lucerne in districts and in countries where it could not be grown before, but increased the yield in those parts where it had been grown hitherto. Messrs. Allen and Hanburys would be the only firm able to sell the cultures as approved by Rothamsted and the Research Committee of the Society.

The following Standing Committees were appointed for 1930:—Finance, Journal and Education, Chemical, Botanical and Zoological, Veterinary, Stock Prizes, Judges Selection, Implement, Showyard Works, General Show, Selection and General Purposes, Dairy and Produce, Horticultural and Research.

On the recommendation of the Committee of Selection, the present members of the various Standing Committees were (with some exceptions) reappointed to those Committees. Mr. T. Neame was added to the Botanical and Zoological Committee, Mr. B. J. Gates to the Implement Committee, Lord Desborough and Colonel Wheeler to the Committee of Selection and General Purposes, and Captain Buxton to the Research Committee.

The PRESIDENT: My lords and gentlemen, as this is the last occasion on which I shall have the pleasure of presiding over meetings of this Council, I would like to take this opportunity of expressing my grateful thanks to all those who have really done the work of the Society during the past year. Especially would I like to mention the various Chairmen of the Standing Committees whose work is so important to the Society. In saying this, I would like to say how proud I feel that the year during which I have been President has been the year in which the Royal Show has made a financial profit. It is very nice that one's name should be connected with a successful Show, but I fully realise that the amount of work which I have done in order to ensure that success has been infinitesimal. The success has really been due to the very hard work put in by Lord Daresbury first of all, by Mr. Turner, and all the stewards who worked so hard to make the Show a success. (Applause.) I am not going to bore you with the details of all the work that they have done, as you know them so much better than I do. Although my thanks are expressed in these few words, I wish you to realise that they are very sincere. (Applause.)

Proceedings at the Annual General Meeting of Governors and Members,

HELD AT THE ROYAL AGRICULTURAL HALL, ISLINGTON,

WEDNESDAY, DECEMBER 11, 1929.

THE EARL OF HAREWOOD, K.G. (PRESIDENT), IN THE CHAIR.

President's Opening Remarks.

The PRESIDENT: Your Royal Highness, my Lords and Gentlemen, at the termination of my year of presidency of the Royal Agricultural Society of England it is my duty to lay before you the Annual Report of the Society, giving a summary of its work during the past twelve months. Before making any comment upon it, however, I should like to express on your behalf the grateful thanks of the Society to the Royal Agricultural

Hall Company and to the Smithfield Club for the use of this room and for the arrangements which they have made for our comfort. (Hear, hear, and applause.) I should like especially to thank Mr. Alexander Parker, the managing director, for his kind attention to our needs, and I would ask him to convey to all concerned in the arrangements a sincere expression of our gratitude. (Hear, hear.) Gratitude has been said to be inspired by a lively sense of favours to come, and Mr. Parker's intimate connection with Warwickshire and with the town of Warwick, where we expect to hold our Show in 1931, will make him realise how in this case our gratitude, sincere as it is as regards his assistance in the past, derives additional inspiration from anticipation. (Hear, hear, and laughter.)

With regard to the matters contained in the Report which is in your hands, I am going to say a very few words on two subjects only. I hope that everybody will read the Report in full, because what I am going to say is not in any sense a summary of it, but I wish to draw the attention of the members of the Society to a report on the subject of the eradication of the warble fly. The Leathersellers' Company recently called a conference of representatives of all bodies interested in the eradication of that pest. The damage done by the grub of this fly to the cattle hides in this country amounts to over £1,000,000 a year, besides retarding growth and decreasing milk yield, and it completely stops the export of pedigree cattle to Australia for half the year. The conference has set up two committees to deal with the various problems involved. The co-operation of the National Farmers' Union is assured to carry on a vigorous campaign against the fly and its grub. It is hoped that all Agricultural Committees of County Councils will also co-operate. (Hear, hear.) I should like to take this opportunity of urging every member of the Royal Agricultural Society of England to do everything in his power to assist this campaign in his own district. (Hear, hear, and applause.)

I regret to see, my lords and gentlemen, that the membership of the Society has decreased during the past year by 250 members. I had hoped that during my year of office as President we should have been able to maintain or even to increase our membership in the North of England, and especially in Yorkshire, that being an area which is not really adequately represented in the Society. The privileges, however, which were accorded to members of the Yorkshire Agricultural Society enabled a great many possible members of this Society to obtain the advantages of membership by joining the Yorkshire Agricultural Society, and I think it may be said this policy acted unfavourably towards the increase of our permanent membership, although I have no doubt that it was a great factor in the success of the Show at Harrogate. The profit from that Show, as you will see from the report and accounts in your hands, amounted to £8,795. (Applause.) It is extremely gratifying to me that my name should be associated with a year in which the Royal Show has made so good a profit, but I do not conceal from myself the fact that my own share in this success has been of the most minute character. The success has really been due to the extraordinary efficiency and great efforts of, first, Lord Daresbury, whose tact in dealing with local authorities and everybody connected with Harrogate succeeded at once in gaining their whole-hearted co-operation in everything. (Hear, hear.) Secondly, I should like to name the Stewards, whose efficient work is noticed by everybody who attends these shows, and I wish to express to them my most sincere thanks for the work which they performed. At the Show we expressed our thanks to the Mayor and Corporation and to the officials of Harrogate, who worked so hard, and I can only repeat to them that we owe them a very deep debt of gratitude. (Hear, hear.) I should especially like to mention the name of Sir Harold Mackintosh, who is here and who will presently move the adoption of the Report. (Hear, hear, and applause.)

The Show next year will be held at Manchester on practically the same site as that occupied in 1916. It is not possible to draw any comparison between the year 1916, in the middle of the war, and the prospects for 1930, but, when we remember that in 1916 nearly 150,000 persons paid for admission and that the Society made a profit of £4,500, we may hope for a notable Show in the coming year. (Hear, hear.) The Royal Lancashire Agricultural Society is behaving with its accustomed generosity in not holding its own show. (Hear, hear.)

If, as I understand is your intention, you elect His Royal Highness the Duke of Gloucester as your President for next year—(applause)—I hope that he will have as successful and pleasant a year of office as I have experienced. He will, I know, have the wholehearted co-operation of those gentlemen who have assisted me so much during my year of office, and amongst those I should like especially to mention the name of Mr. Turner, the Secretary of the Royal Agricultural Society. (Applause.) If I may put it in this way, I should say that he has been of great assistance in keeping the President on the rails throughout the year instead of going off them from time to time.

Presentation of Balance-Sheet.

My Lords and Gentlemen, I now have the pleasure of presenting to you the balance-sheet for the year 1928, together with the accounts for the Harrogate Show, which are in the hands of all those present. (Applause.)

The next item of the agenda is the Report of the Council, which has been printed and circulated through the post to each member of the Society. Is it your pleasure that it be taken as read?

Agreed.

Adoption of Report.

Sir HAROLD MACKINTOSH: My Lord President, your Royal Highness, my Lords and Gentlemen, I promised to propose the adoption of this Report before I received a copy of it. Had I known that there was to be a paragraph referring to me such as appears in the Report I should have begged to be excused, but this gives me an opportunity of saying that that paragraph is grossly exaggerated and that the result of the Harrogate Show was due entirely to a very fine team spirit which animated every member of the Local Committee from the first day to the last. The usual Yorkshire modesty of the President prevents him taking the credit that is due to him, but I can assure you that he was the greatest factor in the success of the Show. I can only say that if ever the Society holds its Show in Yorkshire again I hope it will be as fortunate in its President as it has been this year. As a member of the Local Committee, I can say that we are very gratified at the results of the Show, which has shown a very good profit. The doctors in Harrogate say that one visit is no good —(laughter)—and after a little lapse of time, when Harrogate gets its breath back, we shall be glad to welcome you there again. As President this year of the Yorkshire Agricultural Society, I can say that it was a real pleasure to Yorkshire people everywhere to welcome the Royal, and I am glad that we have set our rivals over the borders in Lancashire a high standard for next year. (Hear, hear.) I hope we shall beat them on the cricket-field, but I hope they will beat our record at the Show next year. I should like to mention, if I may, the great support that the Local Show Committee received from the Yorkshire Press. We were supported from the first day to the last wholeheartedly, and as publicity in these days is half the battle we owe a debt of gratitude to the Yorkshire Press. I wish it were as easy to suggest ways of turning agriculture into a profitable industry as it was to turn the losses of the Show into a profit; but yet, if you think about it, I believe you will see that the best way for the industry to regain prosperity is to follow the lines indicated in this report, the adoption of which I have the honour to propose to-day. The Royal Show is, after all, the national shop window of the farmers, where once a year the best in our agricultural life can be gathered for the public to see. But it is not sufficient to have good shop windows; you must know how to dress them, and you must have the right goods and standard goods to put into them. I know that we are all glad to see the efforts of the Ministry of Agriculture, of this Society and of the Farmers' Union in standardising farm produce, and we hope that will increase as years go by. It is perhaps not sufficiently recognised in the country generally that the Royal Agricultural Society does not exist solely to hold an annual show—(Hear, hear)—nor, indeed, is that our most important work, although it may be our most spectacular work. The report this year, as you will see, gives only two pages out of twenty-six to the Show itself, and I take it that that is the true relationship of the work of the Royal Agricultural Society. We are what our name denotes, the National Agricultural Society of the country, and, as the report shows, we assist agriculture in innumerable important ways. The Society is able to do these things and to help agriculture in all these ways as the result of the shows. We derive our finances in the last resort from the profits of the shows, but the shows are a means to an end, and that end is to help agriculture in the country as a whole. The report, with its wide scope, summarises a great amount of work well done, and reflects very great credit on the members of the Council. I have great pleasure in proposing the adoption of this report. (Applause.)

Mr. George Wood: Lord Harewood, your Royal Highness, my Lords and Gentlemen, I feel it a very great honour, in this my fiftieth year of membership of this Society, to be privileged to second the adoption of this report. In my time as a member we have seen many vicissitudes. We have had heavy losses, but we have always surmounted them, and on this occasion we have the great pleasure of showing a very good balance-sheet. The Royal Society has shown the way to many young farmers to try and push agriculture forward and make it maintain its proper place. One feels a certain amount of pleasure in thinking of the long period from the time when Mr. H. M. Jenkins was Secretary of the Society down to the time of our present worthy Secretary; we have had very good Secretaries, and I think we now have the best we have ever had. (Hear, hear, and applause.) This report has been so ably put before you that there is very little left for me to say, but I should just like to say this, that I am an old farmer who has passed through these troublous times and can still pay 20*s.* in the £. (Hear, hear.) It gives me very great pleasure to second the adoption of the report. (Applause.)

The resolution was put to the meeting by the President, and carried unanimously.

Election of President.

Lord Daresbury, C.V.O.: My Lords and Gentlemen, I feel it a very great honour indeed to be asked to propose the next resolution, which is: "That His Royal Highness the Duke of Gloucester, K.G., be elected President of the Society to hold office until the next ensuing annual general meeting." (Applause.) I am sure we are all delighted that His Royal Highness has accepted the Presidency of this Society. (Hear, hear.) I remember that when the Show was held at Leicester he very kindly came and helped us a great deal. I am sure we enjoyed his visit, and I hope that he enjoyed seeing round the Show. Next year we shall be welcoming him to Manchester, and I can assure you that he will get a real royal Lancashire welcome. Lancashire has always put up a good Show. Next year will be the fourth time the Show has been held in Manchester, and with one exception we have always had a member of the Royal House as our

President. (Hear, hear.) Although, as you well know, the cotton industry is not in a very prosperous state at the present time, I think we shall find a little money round Manchester to put up a good Show, and I hope that when this time comes next year His Royal Highness will be satisfied with the efforts we have made. I can assure him of a great welcome, and I can assure him also that those of us who live in the county of Lancashire will leave nothing undone to make the Show a very great success. With those very few words, I beg to propose that His Royal Highness be elected President for the ensuing year.

Lord HASTINGS: My Lord President, my Lords and Gentlemen, I beg to be allowed the honour of seconding the resolution which has been put before you by Lord Daresbury. I feel that the Society will congratulate itself upon the prospects which lie before it in having its President in the person of the Duke of Gloucester, because success in the coming year under His Royal Highness's Presidency is certainly assured. (Hear, hear.) I have much pleasure in seconding the motion.

The resolution was put to the meeting and carried with acclamation.

H.R.H. THE DUKE OF GLOUCESTER, K.G., who was received with loud applause on rising to reply, said: My Lord President, my Lords and Gentlemen, I thank you, Lord Daresbury, and you, Lord Hastings, for the very kind way in which you have moved and seconded my election as President of this Society. May I say at once how greatly I appreciate the honour you have conferred upon me in electing me to the position which has been held by so many distinguished men and by members of my own family. This is the fourteenth occasion upon which a member of my House has been elected President of your Society—(hear, hear, and applause)—and I hope I shall worthily fulfil the traditions that have so long been associated with this office. I cannot pretend to have a very deep knowledge of agriculture, nor can I claim the same intimate association with it as my brother, the Prince of Wales, who farms so extensively and breeds and exhibits stock so successfully. I had, however, the pleasure of attending the Royal Show at Leicester in 1924 for the first time. I then said that my love of hunting and hunters did give me in some measure an association with agriculture—(Hear, hear)—and the breeding of horses. Since I attended that Show I can claim to have learned something, to know more about agriculture and the adverse times through which it is passing, and the intervening years have, if anything, served to intensify my love of hunting and those associated with that sport in this country. It is an additional pleasure to follow Lord Harewood in the chair, and if I am in any difficulties I am sure I may rely upon his ability and advice which he is qualified to give me after occupying the chair during this last year. As regards the Manchester Show, which I hope to visit, I suppose the position at the moment is a somewhat problematical one. Lancashire is an industrial county rather than an agricultural one, and it is undergoing a period of acute trade depression, I am sad to say. It has, however, a very large population, and in close proximity to the city is a wide stretch of agricultural land in Cheshire, over which some years ago I had the pleasure of hunting. I hope that the industrial clouds will pass away, and that next year's Show at Manchester will be a success from every point of view. (Hear, hear.) I may not be able to devote the time and attention to the Show at Manchester which were given to the Harrogate Show when Princess Mary and your President filled in every moment of the five days of the Show in an interesting inspection of every department of it. They have set me an example which is hard to follow, and I can only say that I will do my best in any way I possibly can to assist the Council and those concerned in the management of the Show. (Hear, hear.) I hope the membership of the Society will increase, and that the present members will loyally support the Council in all its efforts. (Loud applause.)

Election of Trustees.

The PRESIDENT : Your Royal Highness, my Lords and Gentlemen, the next item on the agenda is the election of Trustees. It is customary for the Trustees to be elected by a show of hands. The names of the present Trustees who are, under Bye-law 141, recommended by the Council for re-election, are printed in List " A " on the agenda paper, and I will now ask you to signify in the usual manner whether it is your pleasure that these twelve gentlemen should be elected Trustees of the Society to hold office until the next ensuing annual general meeting.

The Trustees, whose names are as follows, were duly elected :—

H.R.H. the Prince of Wales, K.G., York House, S.W.1.
H.R.H. the Duke of York, K.G., 145, Piccadilly, W.1.
Charles Adeane, C.B., Babraham Hall, Cambridge.
The Duke of Bedford, K.G., Woburn Abbey, Bedfordshire.
Lord Cornwallis, C.B.E., Linton Park, Maidstone, Kent.
The Earl of Coventry, Croome Court, Severn Stoke, Worcester.
Percy Crutchley, Sunninghill Lodge, Ascot, Berkshire.
Lord Daresbury, C.V.O., Walton Hall, Warrington.
The Duke of Devonshire, K.G., Chatsworth, Bakewell.
Lord Harlech, C.B., Brogyntyn, Oswestry.
The Hon. Cecil T. Parker, The Grove, Corsham, Wiltshire.
Lieut.-Col. E. W. Stanyforth, C.B., Kirk Hammerton Hall, York.

Election of Vice-Presidents.

The PRESIDENT : The next business is the election of Vice-Presidents. I also ask you to signify by show of hands whether it is your pleasure that the present Vice-Presidents, whose names are printed in List " B," should be elected to hold office until the next ensuing annual general meeting.

The Vice-Presidents were duly elected as below :—

The Rev. C. H. Brocklebank, Westwood Park, West Bergholt, Essex.
The Earl of Derby, K.G., Knowsley, Prescot, Lancs.
Lord Desborough, K.G., Taplow Court, Bucks.
R. M. Greaves, Wern, Portmadoc, North Wales.
The Earl of Harewood, K.G., Goldsborough Hall, Knaresborough.
William Harrison, Albion Ironworks, Leigh, Lancs.
Sir Arthur G. Hazlerigg, Bart., Noseley Hall, Leicester.
Ernest Mathews, C.V.O., LL.D., Elmodesham House, Amersham.
The Duke of Portland, K.G., Welbeck Abbey, Worksop.
The Earl of Powis, Powis Castle, Welshpool, Mont.
Viscount Tredegar, C.B.E., Tredegar Park, Newport, Mon.
The Earl of Yarborough, Brocklesby Park, Habrough, Lincolnshire.

Election of Accountants and Auditors.

Mr. F. L. GOOCH : My Lord President, your Royal Highness, my Lords and Gentlemen, I have very great pleasure in proposing that Messrs. Price, Waterhouse and Co. be elected as professional Accountants and Auditors of the Society's accounts for the ensuing year. I am sure we are very grateful to the Council and all those who have helped to give them such a good balance-sheet to audit.

Mr. R. CHAWNER : My Lord President, your Royal Highness, my Lords and Gentlemen, I have great pleasure in seconding the proposition which has just been put forward.

The resolution was put to the meeting by the PRESIDENT and carried unanimously.

Elections to the Council.

The PRESIDENT : The next item is the election to the Council. Under the bye-laws, the requisite measures have been taken to fill the vacancies on the Council in the representation of the districts in Group " A." As

President, I have now formally to report to the Annual General Meeting the names and addresses of the ordinary members of the Council who have been elected by the several divisions, in order that the meeting may, in the words of the bye-law, "take cognisance of their election." This duty I formally fulfil by placing before you List "C," on pages 3 and 4 of the printed Agenda paper, in which the names of the newly elected members are specially marked.

Northumberland (two representatives): G. G. Rea, Doddington, Wooler, R.S.O.; C. H. Sample, 26, St. Mary's Place, Newcastle-on-Tyne.
Yorks, North Riding (two representatives): Major Clive Behrens, Swinton Grange, Malton; John Bell, The Hall, Thirsk.
Lancashire and Isle of Man (two representatives): Windham E. Hale, Mowbreck Hall, Kirkham; Lord Stanley, M.C., M.P., Knowsley, Prescot.
Cheshire (three representatives): J. Herbert Hall, Hill House, Mobberley, Knutsford: H. Percy Mortimer, Kingsley Windmill, via Warrington; R. B. Neilson, Holmwood, Sandiway.
Derby: U. Roland Burke, Chatsworth, Bakewell.
Northampton: F. H. Thornton, Kingsthorpe Hall, Northampton.
Norfolk (two representatives): Capt. H. G. Buxton, Cokesford Farm, Tittleshall, King's Lynn; Lord Hastings, Melton Constable Park.
Bedford: Frank Webb, Billington Estate Office, Leighton Buzzard.
Hertford: Colonel Abel Henry Smith, Woodhall Park, Hertford.
Middlesex: Earl of Strafford, Wrotham Park, Barnet.
Stafford: John Myatt, Lincoln House, Shenstone, Lichfield.
Worcester: Colonel E. Vincent V. Wheeler, Newnham Court, Tenbury.
Monmouth: Colonel Sir Edward Curre, Bart., Itton Court, Chepstow.
Cornwall: Capt. G. H. Johnstone, Trewithen, Grampound Road.
Dorset: Arthur Hiscock, Manor France Farm, Stourpaine, Blandford.
Hampshire and Channel Islands (two representatives): T. W. Ashton, Estate Office, Hursley Park, Winchester; James Falconer, Micheldever Station.
Scotland (two representatives): Major C. R. Dudgeon, M.P., Cargen Holm, Dumfries; Earl of Elgin and Kincardine, C.M.G., Broomhall, Dunfermline.

Members' Suggestions.

The President: Has any Governor or member any remark to make or suggestion to offer that may be referred to the Council for their consideration?

Lt.-Col. Disbrowe-Wise: I should like to make one small suggestion. I brought it up when I had the honour of being a member of Council and I have spoken about it to Lord Daresbury. It is that seats should be provided round the bandstand at future shows. A great many people come to listen to the band who are not actually interested in agriculture, and I think it would be for their comfort if they could have some seats provided for them.

The President: Your suggestion shall receive the attention of the Council.

Mr. R. S. Walters: I have been asked by several exhibitors to suggest to the Finance Committee that the time has now arrived when the entrance fees chargeable for live stock should be reduced, and I wish to raise that question. I would just draw the attention of the meeting to the fact that at Harrogate the entrance fees amounted to £8,000 and some odd pounds, and the prize-money amounted to £8,000 and some odd pounds. I gather that profits are being made and that it is anticipated that profits will be made in the future, and I do therefore seriously suggest that the ordinary exhibitor would be only too pleased if the Council of the Society could see their way to reduce in some small degree the entrance fees chargeable for all classes of live stock.

The President: Your suggestion shall certainly be considered by the Council, but I am afraid that it is not possible to accept your figures of the amount of prize-money distributed as being quite accurate.

That, my Lords and Gentlemen, is the end of the formal business on the agenda.

Thanks to Retiring President.

Colonel E. W. STANYFORTH: Your Royal Highness, my Lords and Gentlemen, it falls to my lot to propose the last resolution, but by no means the least, that our thanks be given to our retiring President. (Hear, hear.) It seems to be a custom in this Society that whoever proposes the election of the President has also to propose the vote of thanks to him in the following year for his services. I conclude that that is to see that what he said the year before has come true. (Laughter.) I ventured to look and see what I did say last year before I dared to speak to you to-day, and, to sum it up, practically what I said was that I felt perfectly certain that we had in Lord Harewood an ideal President, absolutely on the spot, and I can only say that he has entirely fulfilled everything that I said about him, and I said a good deal. (Applause.) I am very, very thankful that he has had so successful a Show financially. That has been due a very great deal to his untiring energy during the time of the Show, and not only at the Show itself but, before that, on the Local Committee. It is very seldom in my experience of the Royal Agricultural Shows of very nearly fifty years that I have known a President take so much interest and do so much hard work as Lord Harewood did at the Show this year. When I spoke to you last year I said I ventured to think that Lord Harewood had a very valuable asset in his wife, Her Royal Highness Princess Mary. We know perfectly well how the Royal Family have supported us in our shows and in every work connected with the Royal Agricultural Society for many years, but I venture to say that on no occasion has a member of the Royal Family taken so much interest or done so much work as Princess Mary did during the Harrogate Show. (Hear, hear, and applause.) She was not content with visiting the Show every day, but she asked to be allowed to come the day before, to look round, and at the end of the Show, on the last day, her remark was: "Can I do anything more?" I am sure you will wish on this occasion, after the services that Princess Mary and Lord Harewood have rendered to the Society, that we should send her our special thanks for her untiring efforts in visiting nearly every stand in the Show where there was any necessity for her to go or anything of interest to be seen, and to say how very much we are indebted to her for all that she did for the Show. Lord Harewood was there from morning to night every day, and he dispensed lavish hospitality the whole time, and I can only say, on behalf, I am sure, of all of you and on behalf of Yorkshire, that we are very grateful to him. (Loud applause.)

Mr. H. DENT BROCKLEHURST: Your Royal Highness, my Lords and Gentlemen. I have the greatest pleasure in seconding this vote of thanks to our retiring President. Our esteemed Secretary tells me that it is the practice for those who propose and second the election of the President to return thanks to him at the end of his year of office, and that is why I am in this position to-day, but I should like to make a suggestion, and that is that when it comes to the vote of thanks the position of the proposer and the seconder should be reversed. (Hear, hear, and laughter.) I suggest that for this reason, that the proposer always gets first round. (Laughter.) Colonel Stanyforth has picked out all the nice bits, like a Yorkshireman. (Laughter.) He walks off with all the cakes and buns and he has left me with the crumbs and dry crusts. (Laughter.) There is another point in my suggestion which I think will appeal to Lord Harewood, who, like myself, is fond of a race or two now and then, and that is that it is not much fun always running second, whether on the racecourse or whether at the Smithfield Show. (Laughter.) We are very grateful to Lord Harewood for his very great services during the past year, and I am sure it is a cause of great satisfaction to him, as it is to the proposer and the seconder, that his efforts, which have been very great, have been suitably rewarded with a large profit. With the tribute to him I should like, with Colonel Stanyforth, to couple the name of Her Royal Highness Princess Mary. (Hear, hear, and applause.) She, with much charm, has thrown herself with the same keenness and the same interest into everything connected with the Show, and I am sure that to their joint efforts much of the success of the Show is due. (Hear, hear.) I beg to second the vote of thanks that has been proposed by Colonel Stanyforth. (Applause.)

The resolution was put to the meeting by Colonel Stanyforth and carried with acclamation.

The PRESIDENT: Colonel Stanyforth, Mr. Brocklehurst, your Royal Highness, my Lords and Gentlemen, I thank you most sincerely for the very kind expressions you have used with regard to me, and what little I have been able to do for the Royal Agricultural Society during the past year. Princess Mary will, I know, be very much gratified by the very kind words you have used with regard to her. She does what I believe every good wife ought to do; help her husband in all that he undertakes. (Laughter and applause.) She has been at the back of me, keeping me going over any little bit of public work which I have attempted to do. (Hear, hear.) The vote of thanks is really much more due to her than it is to me, but I thank you, nevertheless, for the kind way in which you have given us both your thanks.

Royal Agricultural Society of England.

AWARDS OF PRIZES AT HARROGATE, 1929.

ABBREVIATIONS.

I., First Prize. II., Second Prize. III., Third Prize. IV., Fourth Prize. V., Fifth Prize. R. N., Reserve Number. H. C., Highly Commended. C., Commended.

The responsibility for the accuracy of the description or pedigree, and for the eligibility to compete of the animals entered in the following classes, rests solely with the Exhibitors.

Unless otherwise stated, each Prize Animal in the Classes for Horses, Cattle, Goats, Sheep, and Pigs, was "bred by Exhibitor."

HORSES.

Shires.

Class 1.—*Shire Stallions, born in* 1926.

No. in Catalogue.

1 **I. (£20.)**—J. MORRIS BELCHER, Tibberton Manor, Wellington, Salop, for **Pendley Flashlight** 40142, bay, bred by H. W. Bishop and J. W. Measures, Pendley, Tring; *s.* Monks Green Friar 35891, *d.* 99585 Pendley Princess 3rd *by* Champion's Goalkeeper 30296.

5 **II. (£10.)**—F. W. GRIFFIN, Boro Fen, Peterborough, for **Boro Renown** 40037, bay; *s.* Ditchingham John 38164, *d.* 113990 Crawford Renown *by* Rowington Recruit 35145.

4 **III. (£5.)**—SIR BERNARD GREENWELL, BART., Marden Park, Woldingham, Surrey, for **Marden Traitor** 40113, bay; *s.* Coage Dalesman 39149, *d.* 116921 Marden Forest Queen 2nd *by* Champion's Goalkeeper 30296.

6 **R. N.**—MRS. STANTON, Snelston Hall, Ashbourne, for **Statfold Nulli Secundus.**

Class 2.—*Shire Stallions, born in* 1927.

14 **I. (£20, & Champion.[1])**—MRS. STANTON, Snelston Hall, Ashbourne, for **Kirkland Black Friar** 40320, black, bred by W. H. Wildman, Manor Farm, Borwick, Carnforth; *s.* Carlton Friar Tuck 36384, *d.* 122097 Jess *by* Crossmoor Prince Forester 33859.

9 **II. (£10, & R. N. for Champion.[1])**—A. H. CLARK & SON, Moulton Eaugate, Spalding, for **Moulton Commandant** 40357, bay; *s.* Moulton Harboro 39559, *d.* 82339 Moulton Victor's Queen *by* Moulton Victor King 28590.

13 **III. (£5.)**—MAJOR J. A. MORRISON, D.S.O., Pendley Stock Farms, Tring, for **Pendley Harvester** 40368, black, bred by A. Hall & Sons, Tadcaster; *s.* Seedsman 39589, *d.* 99582 Pendley Lady *by* Champion's Goalkeeper 30296.

8 **R. N.**—J. MORRIS BELCHER, Tibberton Manor, Wellington, Salop, for **Tibberton Premier King.**

Class 3.—*Shire Stallions, born in* 1928.

24 **I. (£20.)**—MRS. STANTON, Snelston Hall, Ashbourne, for **Snelston Harvester**, brown; *s.* Seedsman 39589, *d.* 114377 Hanbury Harboro' Starlight *by* Harboro' Nulli Secundus 33231.

16 **II. (£10.)**—J. MORRIS BELCHER, Tibberton Manor, Wellington, Salop, for **Tibberton Combination 2nd**, brown; *s.* Eaton Premier King 39486, *d.* 115607 Tibberton Lady *by* Champion's Goalkeeper 30296.

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[1] Champion Gold Medal, and £5 to the Reserve, given by the Shire Horse Society for the best Stallion. A Prize of £2 is also given by the Shire Horse Society to the Breeder of the Champion Stallion, provided the Breeder is a Member of the Shire Horse Society, and the Dam of the animal is registered in the Shire Horse Stud Book.

Class 4.—*Shire Mares, with foals at foot.*

26 I. (£20.)—F. W. Griffin, Boro Fen, Peterborough, for 117865 **Boro Conquest**, bay, born in 1924 [foal *by* Brockhill Padre 39852]; *s.* Rowington Recruit 35145, *d.* 97560 Conquest Bluebell *by* Eaton Nonsuch 27301.

25 II. (£10.)—C. and M. Barker, Stilton House, Helmsley, York, for 116367 **Dogdyke Modern**, bay, born in 1923 [foal *by* Seedsman 39589], bred by W. W. W. Butt, Eastfield Farm, North Thoresby, Lincs.; *s.* Colney Friar 37253, *d.* 116866 Loyal Mettle *by* Moulton Victor King 28590.

Class 5.—*Shire Colt Foals, the produce of Mares entered in Class* 4.[1]

31 I. (£10.)—F. W. Griffin, Boro Fen, Peterborough, for bay, born March 18; *s.* Brockhill Padre 39852, *d.* 117865 Boro Conquest *by* Rowington Recruit 35145.

30 II. (£5.)—C. and M. Barker, Stilton House, Helmsley, York, for bay, born April 15; *s.* Seedsman 39589, *d.* 116367 Dogdyke Modern *by* Colney Friar 37253.

Class 6.—*Shire Filly Foals, the produce of Mares entered in Class* 4.[1]

[No Award.]

Class 7.—*Shire Fillies, born in* 1926.

37 I. (£20, & Champion.[2])—Major J. A. Morrison, D.S.O., Pendley Stock Farms, Tring, for 121532 **Windrush Tulip**, brown, bred by W. R. Scantlebury, Great Barrington, Burford, Oxon.; *s.* Heirloom 3rd 39510, *d.* 101877 Broad Hinton Bonny *by* Bardon Hero 30134.

35 II. (£10, & R. N. for Champion.[2])—The Duke of Devonshire, K.G., Chatsworth, Bakewell, for 120991 **Ledwyche Pearl**, brown, bred by Edward Howells, Lower Ledwyche, Ludlow; *s.* Ledwyche Clansman 39242, *d.* 108383 Hay End Nulli *by* Harboro' Nulli Secundus 33231.

36 III. (£5.)—A. Thomas Loyd, Lockinge House, Wantage, for 121010 **Lockinge Namesake**, bay; *s.* Heirloom 3rd 39510, *d.* 118657 Nameless *by* Southill Rival 31833.

Class 8.—*Shire Fillies, born in* 1927.

38 I. (£20.)—A. H. Clark & Son, Moulton Eaugate, Spalding, for 121579 **Alsager Peach**, brown, bred by T. S. Pidduck, Alsager, Cheshire; *s.* Moulton Harboro' 39559, *d.* 101014 Alsager Future Queen *by* Champion's Goalkeeper 30296.

42 II. (£10.)—Sir Bernard Greenwell, Bart., Marden Park, Woldingham, Surrey, for 122208 **Marden Unity**, bay; *s.* Cowage Dalesman 39149, *d.* 108957 Marden Monica *by* Champion's Goalkeeper 30296.

44 III. (£5.)—Mrs. A. T. Loyd, Lockinge House, Wantage, for 122166 **Lockinge Faith**, bay, bred by J. H. Appleby & Sons, Tixall, Stafford; *s.* Seedsman 39589, *d.* 101841 Bridgford Briar Queen *by* Normanby Briar King 32672.

46 IV. (£4.)—H. C. Pilkington, Bryntanat, Llansantffraid, Mont., for **Tanatside Real Lace**, brown; *s.* Pendley Record 35951, *d.* 120318 Tanatside Rosemary *by* Normanby Rose King 35918.

Class 9.—*Shire Fillies, born in* 1928.

47 I. (£20.)—A. H. Clark & Son, Moulton Eaugate, Spalding, for **Moors Charm**, brown, bred by John Vaughan, Rhallt, Welshpool; *s.* Moulton Harboro' 39559, *d.* 103318 Gleadless Forest Queen *by* Friar Tuck 4th 31447.

52 II. (£10.)—A. Thomas Loyd, Lockinge House, Wantage, for **Lockinge Legacy**, bay; *s.* Heirloom 3rd 39510, *d.* 104190 Lockinge Rambler *by* Haynes Dray King 33242.

50 III. (£5.)—W. E. Foers & Son, Guilthwaite House, Rotherham, for **Whiston Lady Mary** bay; *s.* Darley Wild Wave 38149, *d.* 120422 Whiston Lady *by* Welbeck Redlynch 36204.

54 R. N.—Webster & Son, Newstead Farm, Stockton-on-Forest, York, for **Albany Queen**.

Class 10.—*Shire Geldings, by registered sires, born in or before* 1925.[1]

60 I. (£20.)—H. T. L. Young, Lambourn House, Lambourn, Berks., for **Bower King John**, brown, born in 1924, bred by G. R. C. Foster, Anstey Hall, Trumpington, Cambridge; *s.* Withy Pitts Gay Prince 39073, *d.* 112309 Medmenham Princess *by* Welbeck Redlynch 36204.

56 II (£10.)—Duncan, Gilmour & Co. Ltd., Nixon Lane, Sheffield, for **Angus**, brown, born in 1923, bred by F. W. Griffin, Boro Fen, Peterborough; *s.* Boro Clansman 33748, *d.* 98240 Frodingham Nelson's Favorite *by* Champion's Comrade 31298.

57 III. (£5.)—John William Hemingway, Southlands, Roundhay, Leeds, for **Elma Darkie 2nd**, black, born in 1923, bred by J. Hoggarth, Manor House, Slyne, Lancaster; *s.* Hadlow Prince William 36605, *d.* 102385 Cote Stones Betty *by* Harboro' Nulli Secundus 33231.

59 R. N.—John William Hemingway, for **Peter.**

Class 11.—*Shire Geldings, by registered sires, born in* 1926.[1]

61 I. (£20.)—Ernest Sherwin, Rand Grange, Bedale, for **Rand Footprint**, brown, bred by J. B. Jackson, Little Eccleston Hall, Garstang; *s.* Pendley Footprint 37728, *d.* 97085 Bonny Fashion *by* Lunesdale Kingmaker 23469.

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[1] Prizes given by the Shire Horse Society.

[2] Champion Gold Medal, and £5 to the Reserve, given by the Shire Horse Society for the best Mare or Filly. A Prize of £2 is also given by the Shire Horse Society to the Breeder of the Champion Mare or Filly, provided the Breeder is a Member of the Shire Horse Society, and the Dam of the animal is registered in the Shire Horse Stud Book.

Clydesdales.

Class 12.—*Clydesdale Stallions, born in* 1927.

64 **I. (£20.)**—T. and M. TEMPLETON, Sandyknowe, Kelso, for **Caledonia** 21595, bay; *s.* Benefactor 20867 *d.* Lady Viceroy 40118 *by* Montrave Viceroy 14278.

63 **II. (£10.)**—JAMES KILPATRICK, Craigie Mains, Kilmarnock, for **Craigie McGregor** 21611, bay, bred by John McGregor, Parkmill, Tarbolton; *s.* Craigie McQuaid 20724, *d.* Parkmill Gay Lass 54710 *by* Dunure Footprint 15203.

62 **III. (£5.)**—DAVID ADAMS, Auchencraig, Dumbarton, for **Sanguine** 21677, bay; *s.* Drumry Reformer 19698, *d.* Dunure Brightest Gem 55148 *by* Dunure Footprint 15203.

Class 13.—*Clydesdale Stallions, born in* 1928.

76 **I. (£20, & Champion.[1])**—T. and M. TEMPLETON, Sandyknowe, Kelso, for **Bensign**, brown; *s.* Benefactor 20867, *d.* Bridesmaid 57821 *by* Botha 19026.

72 **II. (£10, & R. N. for Champion.[1])**—GEORGE MCDOWALL, Briarbrae, Stranraer, for **Craigweil**, bay; *s.* Benefactor 20867, *d.* Destiny 53928 *by* Apukwa 14567.

66 **III. (£5.)**—DAVID ADAMS, Auchencraig, Dumbarton, for **Craigadour**, bay, bred by Alexander Maxwell, Warrix, Irvine; *s.* Dunure Footprint 15203, *d.* Warrix May 57711 *by* Craigie McQuaid 20724.

67 **IV. (£4.)**—J. A. ARMSTRONG, The Beeches, Tarraby, Carlisle, for **Walton Refiner**, bay, bred by Arthur Mounsey, Walton, High Rigg, Brampton; *s.* Ardyne Refiner 19606, *d.* Mona of Highrigg 55507 *by* Carrondale 19048.

68 **R. N.**—R. T. ATKINSON, Acrum Farm, West Auckland, for **Grand Parade.**

Class 14.—*Clydesdale Mares, born in or before* 1926.

84 **I. (£20, & Champion.[2])**—ROBERT PARK, Brunstane, Portobello, Midlothian, for **Brunstane Phyllis** (Vol. 48, p. 52), bay, born in 1925, bred by R. M. Leslie, Murroes, Arbroath; *s.* Brunstane Again 20717, *d.* Eva of Murroes 54666 *by* Ardendale 18993.

77 **II. (£10, & R. N. for Champion.[2])**—DAVID ADAMS, Auchencraig, Dumbarton, for **Powerful Link** (Vol. 49, p. 24), dark brown, born in 1926, bred by James Durno, Rothiebrisbane, Fyvie; *s.* Benefactor 20867, *d.* Evening Tide 52150 *by* Rising Tide 17454.

78 **III. (£5.)**—J. A. ARMSTRONG, The Beeches, Tarraby, Carlisle, for **Virol** 56931, brown, born in 1923; *s.* Ardyne Refiner 19606, *d.* Harviestoun Vedie 53307 *by* Dunure Footprint 15203.

85 **R. N.**—F. A. ROTTENBURG, Lochlane, Crieff, Perthshire, for **Lochlane Flowergirl.**

H. C.—82.

Class 15.—*Clydesdale Fillies, born in* 1927.

86 **I. (£20.)**—G. M. BECK, The Lane, Ravenstonedale, Westmorland, for **Lane Mayflower** (Vol. 50, p. 31), black, bred by James Gray, Birkenwood, Kippen Station; *s.* Benefactor 20867, *d.* Rue Mayflower 55956 *by* Dunure Footprint 15203.

88 **II. (£10.)**—ROBERT PARK, Brunstane, Portobello, Midlothian, for **Brunstane Mona** (Vol. 50, p. 97), brown, bred by J. A. Armstrong, The Beeches, Tarraby, Carlisle; *s.* Brunstane Again 20717, *d.* Virol 56931 *by* Ardyne Refiner 19606.

Class 16.—*Clydesdale Geldings, by registered sires, born in or before* 1926.[3]

93 **I. (£20.)**—GLASGOW CORPORATION CLEANSING DEPT., 20, Trongate, Glasgow, for **Director**, roan, born in 1924, bred by David Elder, Westfield Farm, Bathgate; *s.* Dunraven 20309, *d.* Maud 54494 *by* Hamlet 17928.

92 **II. (£10.)**—J. & J. CUNNINGHAM, LTD., 35, Charlotte Street, Leith, for **Banker**, brown, born in 1923, bred by Adam Will, Cushieston, Rayne, Aberdeenshire; *s.* Blackwood Banker 19353.

94 **III. (£5.)**—WILLIAM KERR, Bell Mount, Penrith, for **Lofty King**, bay, born in 1926, bred by Thomas Wilson, Jaapston, Neilston; *s.* Lofty Pride 18423.

90 **R. N.**—JAMES CHAPMAN, Johnston Farm, Gartcosh, Lanarkshire, for **Stirling Castle.**

H. C.—97. **C.**—95.

Suffolks.

Class 17.—*Suffolk Stallions, born in or before* 1925.[4]

105 **I. (£20, & Champion.[5])**—MRS. EVELYN RICH, Wretham Hall, Thetford, for **Morston Gold King** 5643, born in 1924, bred by A. T. Pratt, Morston Hall, Trimley, Ipswich; *s.* Morston Gold Guard 4234, *d.* Leda's Queen 7772 *by* Bawdsey Harvester 3076.

104 **II. (£10.)**—SIR CUTHBERT QUILTER, BART., Bawdsey, Woodbridge, for **Sir Harry of Morston** 5676, born in 1924, bred by R. H. Wrinch, Harkstead, Ipswich; *s.* Fornham Beatty 4942, *d.* Gold Peg 10628 *by* Morston Gold Guard 4234.

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[1] Champion Silver Medal given by the Clydesdale Horse Society for the best Stallion.

[2] Champion Silver Medal given by the Clydesdale Horse Society for the best Mare or Filly.

[3] Prizes given by the Clydesdale Horse Society.

[4] Prizes given by the Suffolk Horse Society.

[5] The "Coronation" Perpetual Silver Challenge Cup given by the Suffolk Horse Society for the best Stallion.

98 III. (£5.)—W. N. L. Champion, Riddlesworth Hall, Thetford, for **Shotley Counterpoint** 5609, born in 1924, bred by Horace Packard & Sons, Shotley, Ipswich; *s.* Fornham Beatty 4942, *d.* Sudbourne Matilda 7123 *by* Sudbourne Counter 3478.

101 R. N.—Col. Raymond W. ffennell, Wytham Abbey Estate, Oxford, for **Morston Orient.**

Class 18.—*Suffolk Stallions, born in* 1926.

110 **I. (£20, and R. N. for Champion.[1])**—Arthur T. Pratt, Morston Hall, Trimley, Ipswich, for **Darsham Duke** 5878, bred by Capt. R. J. Catchpole, The Hall, Darsham; *s.* Berden Bacchus 5382, *d.* Darsham Duchess 8906 *by* Darsham Sheik 4139.

111 **II. (£10.)**—Owen H. Smith, Langham, Oakham, for **Morston Countermand** 5820, bred by A. T. Pratt, Morston Hall, Trimley, Ipswich; *s.* Shotley Counterpart 4903, *d.* Morston Confidence 11416 *by* Morston Connaught 4590.

109 **III. (£5.)**—Sir James Hill, Bart., Hexton Manor, Hitchin, for **Morston Pilgrim** 5819, bred by A. T. Pratt, Morston Hall, Trimley, Ipswich; *s.* Berden Bacchus 5382, *d.* Blyford Petrina 8693 *by* Sudbourne Peter 3955.

Class 19.—*Suffolk Stallions, born in* 1927.

116 **I. (£20.)**—Viscount Dunsford, Eastwell Park, Kennington, Ashford, Kent, for **Ranksborough Imperator** 6015, bred by Owen H. Smith, Langham, Oakham; *s.* Imperator 4874, *d.* Hawstead Wendy 10800 *by* Sudbourne Peter Pan 4214.

119 **II. (£10.)**—The Earl of Iveagh, C.B., C.M.G., Pyrford Court, Woking, for **Pyrford Patrick** 5905; *s.* Cressing Crusader 5433, *d.* Sudbourne Areta 11498 *by* Sudbourne Beau Brocade 4235.

124 **III. (£5.)**—Frank Sainsbury, Blunts Hall, Little Wratting, Haverhill, for **Red Gold of Wratting** 5932, bred by Sir Cuthbert Quilter, Bart., Bawdsey, Woodbridge; *s.* Worlingham Red Gold 5506, *d.* Bawdsey Sappho 11350 *by* Earl Gray 4219.

125 **R. N.**—Gerald E. F. Tenison, Overbury Hall, Layham, Suffolk, for **Morston Count.**

Class 20.—*Suffolk Stallions, born in* 1928.

126 **I. (£20.)**—Miss Zoe Quilter, Bawdsey, Woodbridge, for **Bawdsey Sir Roger** 5970, bred by Sir Cuthbert Quilter, Bart., Bawdsey; *s.* Worlingham Red Gold 5506, *d.* Bawdsey Valeta 11349 *by* Bawdsey Hay 4188.

127 **II. (£10.)**—Owen H. Smith, Langham, Oakham, for **Ranksborough Emperor** 6014; *s.* Imperator 4874, *d.* Shotley Babbler 10777 *by* Sudbourne Beauchief 4215.

Class 21.—*Suffolk Mares, with foals at foot.*

128 **I. (£20, & Champion.[2])**—John A. Berners, Woolverstone Park, Ipswich, for **Shotley Birdie** 12886, born in 1924 [foal *by* Woolverstone Gold Dust 5530], bred by H. Packard & Sons, Shotley, near Ipswich; *s.* Fornham Beatty 4942, *d.* Sudbourne Lark 6341 *by* Sudbourne Arabi 3287.

138 **II. (£10.)**—Frank Sainsbury, Blunts Hall, Little Wratting, Haverhill, for **Bawdsey Sappho** 11350, born in 1921 [foal *by* Worlingham Red Gold 5506], bred by Sir Cuthbert Quilter, Bart., Bawdsey, Woodbridge; *s.* Earl Gray 4219, *d.* Bawdsey Minerva 6449 *by* Bawdsey Harvester 3076.

137 **III. (£5.)**—Sir Cuthbert Quilter, Bart., Bawdsey, Woodbridge, for **Bawdsey Valeta** 11349, born in 1921 [foal *by* Worlingham Red Gold 5506]; *s.* Bawdsey Hay 4188, *d.* Bawdsey One Step 8665 *by* Bawdsey Harvest King 3879.

130 **IV. (£4.)**—E. S. Buck & Son, Sycamore Farm, Raveningham, Norwich, for **Raveningham Doreen** 12357, born in 1923 [foal *by* Woolverstone Checkmate 4683]; *s.* Sudbourne Foch 4869, *d.* Hasketon Flo 7076 *by* Sproughton Gold Ring 3347.

131 **R. N.**—W. N. L. Champion, Riddlesworth Hall, Thetford, for **Riddlesworth Barmaid.**
H. C.—135.

Class 22.—*Suffolk Colt Foals, the produce of Mares in Class* 21.[3]

139 **I. (£10.)**—W. N. L. Champion, Riddlesworth Hall, Thetford, for foal, born Jan. 28; *s.* Shotley Counterpoint 5609, *d.* Riddlesworth Barmaid 12840 *by* Sudbourne Beau Brocade 4235.

Class 23.—*Suffolk Filly Foals, the produce of Mares in Class* 21.[3]

146 **I. (£10.)**—Sir Cuthbert Quilter, Bart., Bawdsey, Woodbridge, for foal, born Feb. 26; *s.* Worlingham Red Gold 5506, *d.* Bawdsey Valeta 11349 *by* Bawdsey Hay 4188.

145 **II. (£5.)**—The Earl of Iveagh, C.B., C.M.G., Pyrford Court, Woking, for foal, born March 10; *s.* Cressing Crusader 5433, *d.* Pyrford Penelope 12400 *by* War Boy 4672.

147 **III. (£3.)**—Frank Sainsbury, Blunts Hall, Little Wratting, Haverhill, for foal, born March 28; *s.* Worlingham Red Gold 5506, *d.* Bawdsey Sappho 11350 *by* Earl Gray 4219.

141 **R. N.**—E. S. Buck & Son, Sycamore Farm, Raveningham, Norwich, for **Raveningham Rose Marie.**

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[1] The "Coronation" Perpetual Silver Challenge Cup given by the Suffolk Horse Society for the best Stallion.

[2] Champion Prize of £10 given by the Suffolk Horse Society for the best Mare or Filly.

[3] Prizes given by the Suffolk Horse Society.

Class 24.—*Suffolk Fillies, born in* 1926.

150 **I. (£20.)**—Sir James Hill, Bart., Hexton Manor, Hitchin, for **Orwell Diadem 14268**, bred by the Right Hon. E. G. Pretyman, Orwell Park, Ipswich; *s.* Shotley Counterpart 4903, *d.* Orwell Diamond 7203 *by* Mendham Boy 3650.

148 **II. (£10.)**—W. N. L. Champion, Riddlesworth Hall, Thetford, for **Riddlesworth Betony** 14236; *s.* Sudbourne Beauchief 4215, *d.* Kellythorpe Poppy 11769 *by* Sudbourne Autocrat 4399.

154 **III. (£5.)**—Sir Cuthbert Quilter, Bart., Bawdsey, Woodbridge, for **Bawdsey Nankin** 14226; *s.* Worlingham Red Gold 5506, *d.* Bawdsey Porcelain 10404 *by* Earl Gray 4219.

151 **R. N.**—The Earl of Iveagh, C.B., C.M.G., Pyrford Court, Woking, for **Pyrford Portia.**

Class 25.—*Suffolk Fillies, born in* 1927.

156 **I. (£20, & R.N. for Champion.[1])**—John A. Berners, Woolverstone Park, Ipswich, for **Woolverstone May** 14758; *s.* Fornham Beatty 4942, *d.* Woolverstone Morn 12503 *by* Woolverstone Arthur 4949.

159 **II. (£10.)**—Sir Cuthbert Quilter, Bart., Bawdsey, Woodbridge, for **Bawdsey Mazurka** 14807; *s.* Worlingham Red Gold 5506, *d.* Bawdsey Jazz 10807 *by* Bawdsey Hay 4188.

158 **III. (£5.)**—Sir Cuthbert Quilter, Bart., for **Bawdsey Seedling** 14806; *s.* Worlingham Red Gold 5506, *d.* Bawdsey Hayseed 9496 *by* Bawdsey Hay 4188.

160 **R. N.**—Owen H. Smith, Langham, Oakham, for **Walton Mary 3rd.**

Class 26.—*Suffolk Fillies, born in* 1928.

165 **I. (£20.)**—Owen H. Smith, Langham, Oakham, for **Walton Bella** 15048, bred by Herbert Smith, Walton Grange, Felixstowe; *s.* Shotley Counterpart 4903, *d.* Walton Minnie 12061 *by* War Boy 4672.

162 **II. (£10.)**—Charles C. Crafer, Stud Farm, Winfarthing, Diss, for **Diss Red Arabienne** 15338; *s.* Sudbourne Arabi 3287, *d.* Redwing 10214 *by* Sudbourne Peter Pan 4214.

164 **III. (£5.)**—H. S. Horne, Aldsworth and Marden Farms, Emsworth, Hants, for **Wildham Shan** 15183; *s.* Sudbourne Basil 5332, *d.* Sudbourne Shan 12143 *by* Sudbourne Beau Brocade 4235.

161 **R. N.**—W. N. L. Champion, Riddlesworth Hall, Thetford, for **Stratton Finale.**

Class 27.—*Suffolk Geldings, by registered sires, born in or before* 1926.[2]

174 **I. (£20.)**—Wray, Sanderson & Co., Ltd., Premier Oil Extracting Mills, Ltd., Isis and Premier Cake Mills, Hull, for **Prince**, born in 1923, bred by the Earl of Iveagh, C.B., C.M.G., Pyrford Court, Woking; *s.* War Boy 4672.

166 **II. (£10.)**—G. and E. Blewitt, Boxted Hall Farms, Colchester, for **Boxted Brandy**, born in 1925; *s.* Tattingstone Beau Esprit 4927, *d.* Seldam 10030 *by* Semer Togo 3705.

172 **III. (£5.)**—Mrs. Evelyn Rich, Wretham Hall, Thetford, for **Briton**, born in 1924, bred by B. S. King, Rushmere, Ipswich; *s.* Shotley Counterpart 4903, *d.* Duchess 8997 *by* Morston Gold Guard 4234.

169 **IV. (£4.)**—H. S. Horne, Aldsworth and Marden Farms, Emsworth, Hants, for **Drummer**, born in 1924, bred by James Ismay, Iwerne, Blandford; *s.* Bawdsey Knave of Diamonds 4837, *d.* Iwerne Diana 10693 *by* Sirius 4332.

170 **R. N.**—A. Preston Jones, Mickleover House, Derby, for **Jim.**

Percherons.

Class 28.—*Percheron Stallions, born in or before* 1925.[3]

179 **I. (£20, & Champion.[4])**—Lt.-Col. H. E. Hambro, C.B.E., Coldham Hall, Bury St. Edmunds, for **Carburateur** B 403, grey, born in 1924, bred by Mons. Crecu, Montagne, France; *s.* Souvenons F 136704, *d.* Raguse F 134533 *by* Mousquet F 106999.

176 **II. (£10, & R. N. for Champion.[4])**—Sir Merrik R. Burrell, Bart, C.B.E., Knepp Castle Estate Office, Horsham, for **Knepp Xanthos** B 266, grey, born in 1923; *s.* Misanthrope B 5, *d.* Potence B 30 *by* Japon F 84819.

177 **III. (£5.)**—Major J. S. Courtauld, M.C., Burton Park, Petworth, for **Burton Yeoman** B 308, grey, born in 1924; *s.* Rhum B 53, *d.* Qualamite B 4 *by* Lyonnais F 102760.

178 **R. N.**—James Crawford, Potterells Farm, Hatfield, for **Coldham Gunner.**

H. C.—181.

Class 29.—*Percheron Stallions, born in* 1926.

182 **I. (£20.)**—Sir Henry H. A. Hoare, Bart., Stourhead, Zeals, Wilts, for **Histon Drayman 5th** B 368, grey, bred by Chivers & Sons, Ltd., Histon, Cambridge; *s.* Villabon B 276, *d.* Perthe B. 178 *by* Japon F 84819.

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[1] Champion Prize of £10 given by the Suffolk Horse Society for the best Mare or Filly.

[2] Prizes given by the Suffolk Horse Society.

[3] Prizes given by the British Percheron Horse Society.

[4] Perpetual Silver Challenge Cup given by the British Percheron Horse Society for the best Stallion.

Class 30.—*Percheron Stallions, born in* 1927.

183 **I. (£20, & Champion.[1])**—CHIVERS & SONS, LTD., Histon, Cambridge, for **Histon Drayman 10th** B 411, grey; *s.* Lagor B 1, *d.* Serverle B 534 *by* Importun F 80576.
186 **II. (£10, & R. N. for Champion.[1])**—C. WILSON, Riseholme, Lincoln, for **Riseholme Master** 408, black; *s.* Brossier F 164092, *d.* Mazurka B 853 *by* Huchoir F 77760.
184 **III. (£5.)**—CO-OPERATIVE WHOLESALE SOCIETY, LTD., Estate Office, Coldham, Wisbech, for **Elm Salammbo** B 405, grey; *s.* Salammbo B 86, *d.* Utelle B 494 *by* Medisant F 105527.

Class 31.—*Percheron Stallions, born in* 1928.

189 **I. (£20.)**—SIR HENRY H. A. HOARE, BART., Stourhead, Zeals, Wilts, for **Stourhead Lagor** B 424, grey; *s.* Lagor B 1, *d.* Torsade B 433 *by* Polygone F 125447.
187 **II. (£10.)**—CHIVERS & SONS, LTD., Histon, Cambridge, for **Burton Cavalier** B 429, black, bred by Major J. S. Courtauld, Burton Park, Petworth; *s.* Burton Yeoman B 308, *d.* Quonjointe B 220 *by* Myrmidon F 109533.
192 **III. (£5.)**—C. WILSON, Riseholme, Lincoln, for **Riseholme Remus** 441, grey; *s.* Bargaly Chieftain B 16, *d.* Recreation B 666 *by* Lagor F 100512.
188 **R. N.**—CHIVERS & SONS, LTD., for **Histon Drayman 12th.**

Class 32.—*Percheron Mares, with foals at foot.*

193 **I. (£20, & R. N. for Champion.[2])**—ALFRED BRIDGSTOCK, Cranley, Gaul Road, March, for **Baudruche** B 685, light grey, born in 1923 [foal *by* Hache Viking B 144], bred by L. Guion, Landes, Bellous Huisne, Orne, France; *s.* Qroisy F 130286, *d.* Nattiere F 114659 *by* Joyeux F 84874.
199 **II. (£10.)**—LORD GLENTANAR, Glen Tanar, Aboyne, Aberdeenshire, for **Tiqueture** B 851, grey, born in 1919 [foal *by* Villabon B 276], bred by Mons. Jeffrey, Pervencheres, France; *s.* Loris F 100377, *d.* Pagination F 127628 *by* Livarot F 100341.
197 **III. (£5.)**—MAJOR J. S. COURTAULD, M.C., Burton Park, Petworth, for **Quasquette** B 5, light grey, born in 1916 [foal *by* Burton Yeoman B 308], bred by A. Chapelle, Plessis, Belleuse, Mortagne, France; *s.* Lagor F 100512, *d.* Rustique F 50571 *by* Duchesnay F 37117.
196 **R. N.**—CHIVERS & SONS, LTD., Histon, Cambridge, for **Ogive.**
H. C.—203. **C.**—195, 200.

Class 33.—*Percheron Colt or Filly Foals, the produce of Mares in Class* 32.[3]

208 **I. (£10.)**—LORD GLENTANAR, Glen Tanar, Aboyne, Aberdeenshire, for grey filly, born April 24; *s.* Villabon B 276, *d.* Tiqueture B 851 *by* Loris F 100377.
209 **II. (£5.)**—LT.-COL. H. E. HAMBRO, C.B.E., Coldham Hall, Bury St. Edmunds, for black colt, born March 12; *s.* Lagor B 1, *d.* Evenlode Delight B 691 *by* Evenlode Valiant B 133.
204 **III. (£3.)**—ALFRED BRIDGSTOCK, Cranley, Gaul Road, March, for **Cranley Supreme**, blue-grey colt, born March 4; *s.* Hache Viking B 144, *d.* Baudruche B 685 *by* Qroisy F 130286.
206 **R. N.**—CHIVERS & SONS, LTD., Histon, Cambridge.
H. C.—211.

Class 34.—*Percheron Fillies, born in* 1926.

213 **I. (£20, & Champion.[2])**—LT.-COL. H. E. HAMBRO, C.B.E., Coldham Hall, Bury St. Edmunds, for **Escargole** B 849, grey, bred by Mons. Guineau, Mortagne, France; *s.* Vallery F 152416, *d.* Ubage F 145045 *by* Josue F 88841.
212 **II. (£10.)**—CHIVERS & SONS, LTD., Histon, Cambridge, for **Burton Abbesse** B 739, dark grey, bred by Major J. S. Courtauld, Burton Park, Petworth; *s.* Prescient B 17, *d.* Quonjointe B 220 *by* Myrmidon F 109533.
214 **III. (£5.)**—SIR HENRY H. A. HOARE, BART., Stourhead, Zeals, Wilts, for **Stourhead Torfrida** B 756, grey; *s.* Lagor B 1, *d.* Torsade B 433 *by* Polygone F 125447.
215 **R. N.**—J. PIERPONT MORGAN, Wall Hall, Watford, for **Histon Limoselle 2nd.**

Class 35.—*Percheron Fillies, born in* 1927.

220 **I. (£20, & Champion.[4])**—J. PIERPONT MORGAN, Wall Hall, Watford, for **Histon Andromaque** B 831, grey roan, bred by Chivers & Sons, Ltd., Histon, Cambridge; *s.* Lagor B 1, *d.* Andromaque B 517 *by* Quaduc F 129371.
216 **II. (£10, & R. N. for Champion.[4])**—CHIVERS & SONS., LTD., Histon, Cambridge, for **Histon Beauty 3rd** B 830, grey; *s.* Lagor B 1, *d.* Palette B 180 *by* Latin F 100016.
218 **III. (£5.)**—CHIVERS & SONS, LTD., for **Stourhead Tirelire** B 827, grey, bred by Sir Henry H. A. Hoare, Bart., Stourhead, Zeals; *s.* Lagor B 1, *d.* Tirelire B 434 *by* Instar F 78857.
219 **R. N.**—ROBERT CHRYSTAL IRVING, Shenley Lodge, Ridge Hill, Barnet, for **Evenlode Fuchsia.**

Class 36.—*Percheron Fillies, born in* 1928.

225 **I. (£20.)**—CO-OPERATIVE WHOLESALE SOCIETY, LTD., Estate Office, Coldham, Wisbech, for **Elm Orvale** B 863, grey; *s.* Salammbo B 86, *d.* Utelle B 494 *by* Medisant F 105527.

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[1] Perpetual Silver Challenge Cup given by the British Percheron Horse Society for the best Two-year-old Stallion born in Great Britain.

[2] Perpetual Silver Challenge Cup given by the British Percheron Horse Society for the best Mare or Filly.

[3] Prizes given by the British Percheron Horse Society.

[4] Perpetual Silver Challenge Cup given by the British Percheron Horse Society for the best Two-year-old Filly born in Great Britain.

224 **II. (£10.)**—CHIVERS & SONS, LTD., Histon, Cambridge, for **Histon Bonny 2nd** B 879, grey; *s.* Mylord B 275, *d.* Histon Bonny B 373 *by* Lagor B 1.

223 **III. (£5.)**—CHIVERS & SONS, LTD., for **Histon Beauty 4th** B 878, grey; *s.* Villabon B 276, *d.* Palette B 180 *by* Latin F 100016.

222 **R. N.**—SIR MERRIK R. BURRELL, BART., C.B.E., Knepp Castle Estate Office, Horsham, for **Knepp Charity.**

Class 37.—*Percheron Geldings, by registered sires, born in or before* 1926.[1]

232 **I. (£20.)**—ROBERT CHRYSTAL IRVING, Shenley Lodge, Ridge Hill, Barnet, for **Shenley Oh,** grey, born in 1924, bred by Lord Kimberley, Kimberley House, Wymondham; *s.* Oh B 58.

228 **II. (£10.)**—CO-OPERATIVE WHOLESALE SOCIETY, LTD., Estate Office, Coldham, Wisbech, for **Elm Perfection** B 362, grey, born in 1926; *s.* Salammbo B 86, *d.* Alfa B 502 *by* Nyctalope F 113635.

229 **III. (£5.)**—MAJOR JOHN FENWICK HARRISON, King's Walden Bury, Hitchin, for **King's Walden Warrior** B 189, grey, born in 1922; *s.* King's Walden Toby B 112, *d.* Reconcule B 321 *by* Neulliac F 117392.

233 **R. N.**—J. PIERPONT MORGAN, Wall Hall, Watford, for **Duke.**

Hunters.

Class 38.—*Hunter Mares, with foals at foot.*

244 **I. (£20, & Champion.[2])**—FRANCIS SAMUELSON, Breckenbrough Hall, Thirsk, for 6218 **Scotfree,** bay, born in 1923 [foal *by* Erehwemos]; *s.* Flying Scot, *d.* 4963 Dream *by* Drummer Kelly.

242 **II. (£10.)**—FRANK C. MINOPRIO, Avening Court, Avening, Glos., for 5923 **Gold Leaf,** chestnut, born in 1914 [foal *by* My Stars], bred by Miss Dorothy Smith, Sandwell, Harberton, Devon; *s.* Golden Grebe 171, *d.* Rockdove 2nd *by* Rockaway 160.

236 **III. (£5.)**—MAJOR J. F. BAINBRIDGE, South Ferriby Hall, Barton-on-Humber, for **Bridget,** brown, born in 1919 [foal *by* Bethlehem].

239 **R. N.**—WALTER J. FRYER, C.B.E., Holme Park, Sonning, Berks., for **Larch.**

Class 39.—*Hunter Mares, with foals at foot, under* 16 *hands, calculated to carry not less than* 13 *stones.*

245 **I. (£20.[3])**—SIR MERRIK R. BURRELL, BART., C.B.E., Knepp Castle Estate Office, Horsham, for **Fujiyama,** chestnut, born in 1918 [foal *by* St. Tudwal]; *s.* Silver King 54, *d.* Maggie Walsh *by* Santoi.

248 **II. (£10.[3])**—MAJOR WALTER H. RAWNSLEY, Well Vale, Alford, Lincs., for 6945 **Mermaid 15th,** bay, aged [foal *by* Top Covert].

246 **III. (£5.)**—E. D. NEWMAN, Scremby Manor, Spilsby, for **Silence,** chestnut, aged [foal *by* Mankato].

249 **R. N.**—T. and H. WARD, Pinchinthorpe, Guisborough, for **Nada Ross.**

Class 40.—*Hunter Mares (Novice), with foals at foot.*

256 **I. (£20, & R. N. for Champion.[2])**—MRS. DRUMMOND OF MEGGINCH, Megginch Castle, Errol, Perthshire, for **Sunshine,** chestnut, born in 1914 [foal *by* Firework].

251 **II. (£10.)**—MISS M. H. AYKROYD, Grantley Hall, Ripon, for **Valencia,** chestnut, born in 1921 [foal *by* King Willow], bred by Harold Wrigley, Ganton Hall, Scarborough; *s.* King Edgar.

262 **III. (£5.)**—T. S. PETCH, Liverton Lodge, Loftus, for **Grey Brina,** grey, born in 1922 [foal *by* The Alder].

260 **IV. (£4.)**—MISS R. M. HARRISON, Maer Hall, Newcastle, Staffs., for 5741 **Crinoline 2nd,** brown, born in 1918 [foal *by* Brisl], bred by Sir Merrik R. Burrell, Bart., C.B.E., Knepp Castle Estate Office, Horsham; *s.* Cock-a-Hoop, *d.* 4247 Lovey Mary *by* Castlenock.

258 **V. (£3.)**—JAMES JOHN EMERSON, Whorlton Cottage, Swainby, Northallerton, for **Jane,** chestnut, born in 1918 [foal *by* Bethlehem].

254 **R. N.**—MISS M. DEAN, Carlton Scroop, Grantham, for **Aconite.**

Class 41.—*Hunter Colt Foals, the produce of Mares in Classes* 38, 39 *and* 40.

276 **I. (£15.)**—T. and H. WARD, Pinchinthorpe, Guisborough, for bay, born April 10; *s.* Periosteum, *d.* 6349 Nada Ross *by* Captain Ross.

265 **II. (£10.)**—MAJOR J. F. BAINBRIDGE, South Ferriby Hall, Barton-on-Humber, for brown, born April 27; *s.* Bethlehem, *d.* Bridget *by* Agar.

274 **III. (£5.)**—MAJOR WALTER H. RAWNSLEY, Well Vale, Alford, Lincs., for chestnut, born April 17; *s.* Top Covert, *d.* 6945 Mermaid 15th *by* Crackenthorpe.

269 **R. N.**—MISS M. DEAN, Carlton Scroop, Grantham, for **Crocus.**

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[1] Prizes given by the British Percheron Horse Society.

[2] Champion Gold Medal given by the Hunters' Improvement and National Light Horse Breeding Society for the best Mare four years old and upwards, which must be either registered in the Hunter Stud Book, or the entry tendered within a month of the Award.

[3] First and Second Prizes given by a member of the Yorkshire Agricultural Society interested in hunters.

Class 42.—*Hunter Filly Foals, the produce of Mares in Classes* 38, 39 *and* 40.

286 **I. (£15.)**—Francis Samuelson, Breckenbrough Hall, Thirsk, for **Express**, bay, born April 27; *s.* Erehwemos, *d.* 6218 Scotfree *by* Flying Scot.
281 **II. (£10.)**—Walter J. Fryer, C.B.E., Holme Park, Sonning, Berks., for chestnut, born March 26; *s.* Longboat, *d.* 5847 Larch *by* Birk Gill.
277 **III. (£5.)**—Miss M. H. Aykroyd, Grantley Hall, Ripon, for chestnut, born April 11; *s.* King Willow, *d.* Valencia *by* King Edgar.
285 **R. N.**—T. S. Petch, Liverton Lodge, Loftus.
H. C.—278.

Class 43.—*Hunter Fillies, born in* 1926.

287 **I. (£20, & Champion.[1])**—Major Clive Behrens, Swinton Grange, Malton, for 6799 **Swinton Honora**, brown; *s.* Dunholm, *d.* 4106 Heather 3rd *by* Scotch Sign.
292 **II. (£10.)**—Miss R. M. Harrison, Maer Hall, Newcastle, Staffs., for 7039 **Filmstar**, chestnut; *s.* Hunty Gowk 186, *d.* 6232 New Star *by* Travelling Lad.
291 **III. (£5.)**—George Dickinson, Cark Mills, Cark-in-Cartmel, for 6997 **Cark Silver Pearl**, brown; *s.* Silver Grill, *d.* 6096 Ruby 9th *by* General Stiosel.
290 **R. N.**—A. J. Cholmley, Place Newton, Malton, for **Tafilet**.
H. C.—293.

Class 44.—*Hunter Fillies, born in* 1927.

302 **I. (£20, & R. N. for Champion.[1])**—Miss R. M. Harrison, Maer Hall, Newcastle, Staffs., for 6911 **Japonica**, brown, bred by Mrs. Filgate, Lisrenny, Ardee, Co. Louth; *s.* Bachelor's Jap, *d.* 6910 Martinsaart *by* Martin Lightfoot.
299 **II. (£10.)**—Major Gordon Foster, Leysthorpe, Oswaldkirk, York, for **Duchess**, brown; *s.* Dunholm, *d.* Edston.
305 **III. (£5.)**—Major Walter H. Rawnsley, Well Vale, Alford, Lincs., for 7028 **Topknot**, chestnut, bred by F. Gibson, Northfield, Retford; *s.* Top Covert, *d.* *by* Ethelbruce.
308 **IV. (£4.)**—Robert Thompson, East Town End Farm, Long Newton, Stockton, for **Hasty Girl**, brown; *s.* Hastatus, *d.* *by* Blacksmith.
295 **V. (£3.)**—Bell & Hogg, Clott House Farm, Ellenthorpe, Boroughbridge, for **Joan**, dark grey, bred by Phillip Burnett, Northolme, Kirbymoorside; *s.* Bethlehem.
296 **R. N.**—Bell & Hogg, for **Pixie**.

Class 45.—*Hunter Fillies, born in* 1928.

310 **I. (£20.)**—W. B. Brown, Southolme, Slingsby, York, for **Rose Mary**, brown; *s.* Dunholm, *d.* Proud Mary *by* Proudridge.
313 **II. (£10.)**—Major Gordon Foster, Leysthorpe, Oswaldkirk, York, for **Dragon Fly**, chestnut; *s.* Dunholm.
309 **III. (£5.)**—Major Clive Behrens, Swinton Grange, Malton, for **Swinton Mantrap**, bay; *s.* Trespasser, *d.* Mannik *by* Torloisk.
314 **IV. (£4.)**—Walter J. Fryer, C.B.E., Holme Park, Sonning, Berks., for 7169 **Latatus**, bay; *s.* Hastatus, *d.* 5847 Larch *by* Birk Gill 178.
312 **V. (£3.)**—James John Emerson, Whorlton Cottage, Swainby, Northallerton, for **Whorlton Lass**, bay; *s.* Periosteum, *d.* Jane.
317 **R. N.**—Miss Joan Kitching, The Low Hall, Pickering, for **Periwinkle**.

Class 46.—*Hunter Geldings, born in* 1926.

333 **I. (£20.)**—Mrs. Howard Mander, Trysull Manor, Wolverhampton, for **John Peel 2nd** 1111, bay, bred by Sir Merrik R. Burrell, Bart., C.B.E., Knepp Castle Estate Office, Horsham; *s.* The Best 147, *d.* 5330 The Belle *by* Hanover Square.
325 **II. (£10.)**—Sir John W. Buchanan-Jardine of Castlemilk, Bart., Castle Milk, Lockerbie, for **Glenholme** 966, brown; *s.* Harmonious, *d.* Carnew *by* Trafalgar.
338 **III. (£5.)**—Captain C. Scott-Hopkins, Low Hall, Kirbymoorside, for **Golden Oriel**, chestnut.
327 **IV. (£4.)**—Mrs. Drummond of Megginch, Megginch Castle, Errol, Perthshire, for **Irish Jig** 1080, bay; *s.* Harmonious, *d.* Bridget.
322 **V. (£3.)**—Lt.-Col. Charles Ainsworth, M.P., Holcombe, Lancs., for **Kings Lynn**, brown, bred by J. Cambray, Carnforth; *s.* Silver Grill.
340 **R. N.**—Mrs E. M. Vaughan, Blackladies, Brewood, Stafford, for **Tantoi**.
H. C.—332, 337.

Class 47.—*Hunter Geldings, born in* 1927.

344 **I. (£20.)**—W. B. Brown, Southolme, Slingsby, York, for **Moor Jock**, brown, bred by Mr. Foxton, Cropton, Pickering; *s.* Aynsley, *d.* *by* Jovial.
352 **II. (£10.)**—Sir Henry H. A. Hoare, Bart., Stourhead, Zeals, Wilts., for **Tidal** 1040, bay; *s.* Tidal Wave, *d.* 6697 Lady Dorchester *by* Barbed Fence.
357 **III. (£5.)**—H. Raley, Rectory Farm, Thornton-le-Clay, for **Midnight** 1074, whole brown; *s.* Aynsley, *d.* 6969 Pinwire 3rd *by* Fealsham.
349 **IV. (£4.)**—Major Gordon Foster, Leysthorpe, Oswaldkirk, York, for **Dunkirk**, chestnut, bred by Mr. Parker, Weston, Malton; *s.* Dunholm, *d.* *by* Ardoon.

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[1] Champion Gold Medal given by the Hunters' Improvement and National Light Horse Breeding Society for the best Filly not exceeding three years old, which must be either registered in the Hunter Stud Book, or the entry tendered within a month of the Award.

348 V. (£3.)—Lord Digby, Minterne, Dorchester, for **Nightlight** 1118, bay; *s.* Loxley, *d.* 7037 Nightgown.

350 R. N.—Major John Fenwick Harrison, Kings Walden Bury, Hitchin, for **Bell Boy.**

H. C.—358. C.—354, 360.

Class 48.—*Hunter Colts or Geldings, born in* 1928.

364 I. (£20.)—Major Clive Behrens, Swinton Grange, Malton, for **Swinton Tally-Ho,** bay colt; *s.* Warrington, *d.* 4473 Truth 2nd *by* Satoimo.

365 II. (£10.)—Bell & Hogg, Clott House Farm, Ellenthorpe, Boroughbridge, for **Mustard,** chestnut gelding, bred by E. Hyslop Bell, Clott House Farm, Boroughbridge; *s.* Count Ross, *d.* Ruby *by* Sir Roger.

371 III. (£5.)—Thomas Marton, Salton Manor, Sinnington, York., for **Dunholm 2nd,** brown colt; *s.* Dunholm, *d.* Marco Lass *by* Marco.

369 IV. (£4.)—George Dickinson, Cark Mills, Cark-in-Cartmel, for **Cark Foxprint,** bay colt; *s.* Silver Fox C, *d.* 6265 Cark Bridget.

363 R. N.—Major Clive Behrens, for **Swinton Narcissus.**

Special Produce Prizes of £3 *each given by the R.A.S.E., and Second Prizes of* £1 *each by the Hunters' Improvement and National Light Horse Breeding Society, for the two best groups of three animals in Classes* 43 *to* 48, *by the same Thoroughbred or Registered Hunter Sire. A Gold Medal was given by the H.I. & N.L.H.B.S. to the owner of the sire of the winning group, and a Silver Medal to the owner of the sire of the second group.*

Sired by Dunholm.

287 **Swinton Honora,** brown filly, exhibited by Major Clive Behrens.
299 **Duchess,** brown filly, exhibited by Major Gordon Foster.
310 **Rose Mary,** brown filly, exhibited by W. B. Brown.

Sired by Harmonious.

325 **Glenholme,** brown gelding, exhibited by Sir J. W. Buchanan-Jardine, Bart.
327 **Irish Jig,** bay gelding, exhibited by Mrs. Drummond of Megginch.
368 **Brown Study,** bay gelding, exhibited by Sir J. W. Buchanan-Jardine, Bart.

Polo and Riding Ponies.

Class 49.—*Polo and Riding Pony Stallions, born in or before* 1926, *not exceeding* 15 *hands.*

376 **I. (£20, & Champion.[1])**—Herbert Bright, The Cove, Silverdale, Carnforth, for **Silverdale Merriment** (Supp. 1925), bay, born in 1925; *s.* Silverdale Cheerio 1320, *d.* Medina (Approved Mare Register, p. 90).

379 II. (£10.)—Captain the Hon. C. K. Greenway, Stanbridge Earls, Romsey, Hants, for **Malice** 1371, chestnut, born in 1920, bred by F. J. Balfour, Brierton House, Charlton Kings, Cheltenham; *s.* Malandante, *d.* 5133 Alicia *by* Belsire 655.

378 III. (£5.)—Miss B. G. Cory-Wright, Norcott Hill, Berkhamsted, for **Gold Eagle** (Young Stock Register, p. 36), chestnut, born in 1925, bred by Kingham Lodge Stud, near Chard; *s.* Eaglehawk, *d.* Chironia (Approved Mare Register, p. 292) *by* Poor Boy.

377 R. N.—Herbert Bright, for **Silverdale Tintamar.**

Class 50.—*Polo and Riding Pony Colts, Fillies or Geldings, born in* 1927.

387 I. (£20.)—Lady Hunloke, 80, Knightsbridge, London, S.W.1, for **Wingerworth Tatters** (Supp. 1928), chestnut gelding; *s.* Ragged Robin, *d.* 5737 Syllabub *by* Barbed Fence.

382 **II. (£10, & R. N. for Champion.[2])**—Lord Digby, Minterne, Dorchester, for **Zia** (Supp. 1927), brown filly; *s.* Thruster 1123, *d.* Precioso (Approved Mare Register, p. 270).

383 III. (£5.)—Mrs. M. M. FitzGerald, Marsden Manor, Cirencester, for **Black Lead** (Supp. 1927), brown filly; *s.* Thruster 1123, *d.* Black Bess 19th (Approved Mare Register, p. 107).

385 R. N.—Captain W. H. France-Hayhurst, Bostock Hall, Middlewich, for **Coral 2nd.**

Class 51.—*Polo and Riding Pony Colts, Fillies or Geldings, born in* 1928.

390 I. (£20.)—Herbert Bright, The Cove, Silverdale, Carnforth, for **Silverdale Talisman** (Supp. 1928), bay colt; *s.* Tabarin (Approved Stallion Register, p. 8), *d.* 4168 Silvery 2nd *by* Right For'ard 368.

392 II. (£10.)—Mrs. M. M. FitzGerald, Marsden Manor, Cirencester, for **Bird Cherry** (Supp. 1929), bay colt; *s.* Cherry Tint 761, *d.* Black Bess 19th (Approved Mare Register, p. 107).

395 III. (£5.)—Lady Hunloke, 80, Knightsbridge, London, S.W.1, for **Wingerworth Raven** (Supp. 1929), chestnut colt; *s.* Maitre Corbeau, *d.* 5737 Syllabub *by* Barbed Fence.

391 R. N.—Lord Digby, Minterne, Dorchester, for **Firefly 3rd.**

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[1] Champion Gold Medal given by the National Pony Society for the best Stallion or Colt.

[2] Champion Silver Medal given by the National Pony Society for the best Filly.

Class 52.—*Polo and Riding Pony Fillies or Geldings, born in* 1926.

399 **I. (£20.)**—Captain W. H. France-Hayhurst, Bostock Hall, Middlewich, for **Rose Noir** (Supp. 1926), black gelding; *s.* Rosewood 1314, *d.* 5032 Juliet 2nd *by* Sandiway 121.

397 **II. (£10, & Champion.[1])**—Miss B. G. Cory-Wright, Norcott Hill, Berkhamsted, for **Lucinda** (Supp. 1926), brown filly; *s.* St. Lucion 1018, *d.* Spice (Approved Mare Register p. 159).

Class 53.—*Polo and Riding Pony Mares, with foals at foot, not exceeding* 15 *hands.*

407 **I. (£20, & Champion.[2])**—Sir Ian Walker, Bart., Osmaston Manor, Derby, for 3140 **Charity 5th,** bay [foal *by* Silverdale Merriment], bred by the late Sir John Barker, The Grange, Bishop's Stortford; *s.* Right For'ard 368, *d.* 2219 Charity 4th *by* Sir Patrick.

402 **II. (£10, Champion,[3] & R. N. for Champion.[2])**—Herbert Bright, The Cove, Silverdale, Carnforth, for 4168 **Silvery 2nd,** brown, born in 1914 [foal *by* Tabarin]; *s.* Right For'ard 368, *d.* 1631 Silver Queen *by* Sandiway 121.

404 **III. (£5, & R. N. for Champion.[3])**—Tresham Gilbey, Whitehall, Bishop's Stortford, for **Miss Graham** (Approved Mare Register, p. 127), dapple grey [foal *by* Wild Tint 1207].

400 **R. N.**—Herbert Bright, for **Silverdale Sepia.**

Dales and Fell Ponies.

Class 54.—*Dales Pony Mares, with foals at foot.*

408 **I. (£15, & Special £1.[4])**—Roy B. Charlton, The Linnels, Hexham-on-Tyne, for 3775 **Robinson's Gipsy,** black, born in 1917 [foal *by* Linnel Raven], bred by Mr. Ralph, Maulds, Meaburn, Westmorland; *s.* Glengarry 1019, *d.* 2218 Queen of Hearts *by* Dalesman 572 .

410 **II. (£10, & Special £2.[4])**—J. W. Dalton, Snowhope Close, Stanhope, Co. Durham, for 5131 **Snowhope Beauty,** black, born in 1922 [foal *by* Snowhope Fashion 1194], bred by John Winder, Greenside, Ravenstonedale, Westmorland; *d.* 5447 Greenside Beauty *by* British Boy 574.

409 **III. (£3, & R. N. for Specials.[4])**—Roy Charlton, Junr., The Linnels, Hexham-on-Tyne, for 4791 **Duchy,** brown, born in 1922 [foal *by* Chance Bird], bred by Roy B. Charlton; *s.* Linnel Comet 841, *d.* 3279 Linnel Martha.

Class 55.—*Fell Pony Mares, with foals at foot.*

411 **I. (£15, & R. N. for Specials.[5])**—Roy B. Charlton, The Linnels, Hexham-on-Tyne, for 4894 **Linnel Coquette,** black, born in 1923 [foal *by* Linnel Mosstrooper 1529]; *s.* Guy Mannering 937, *d.* 2916 Linnel Flirt *by* Dalesman 572.

413 **II. (£10, & Special £1.[5])**—Mrs. W. Dodds, Queen's Letch, Hexham-on-Tyne, for 5522 **Ravenstonedale Gem,** brown, born in 1916 [foal *by* Linnel Mosstrooper 1529], bred by J. F. Paley, Ravenstonedale, Westmorland; *s.* King John 753, *d.* Jenny.

412 **III. (£3, & Special £2.[5])**—Roy B. Charlton, for 4217 **Linnel Nellie,** black, born in 1920 [foal *by* Linnel Mosstrooper 1529], bred by Henry Holme, Thrimby, Penrith; *s.* Glengarry 1019, *d.* 2249 Flora 3rd *by* Mighty Atom 382.

Class 56.—*Dales, Fell or Highland Ponies, not exceeding* 14·2 *hands. To be shown in Saddle.*

416 **I. (£15.)**—Roy Charlton, Junr., The Linnels, Hexham-on-Tyne, for 3331 **Stanhope Beauty,** black dales pony mare, born in 1915, bred by Mr. Hutchinson, The Flosh, Blencarn, Westmorland; *s.* Young Sir Harry, *d.* 3828 Emma *by* Cross Fell Hero.

415 **II. (£10.)**—Roy B. Charlton, The Linnels, Hexham-on-Tyne, for **Linnel Mally,** black fell pony gelding, born in 1924, bred by R. Anderson, Patterdale, Ullswater, Penrith.

417 **III. (£3.)**—J. W. Dalton, Snowhope Close, Stanhope, Co. Durham, for 5806 **Snowhope Perfection,** black dales pony mare, born in 1925, bred by Robert Sayer, Mount Clifton, Penrith; *s.* Dalesman 572, *d. by* Bendle Squire.

420 **R. N.**—Ernest Sherwin, Rand Grange, Bedale, for **Sir Ernest.**

Welsh Mountain Ponies.

Class 57.—*Welsh Mountain Pony Stallions, born in or before* 1926, *not exceeding* 12 *hands.*

424 **I. (£15.)**—John Jones & Son, Dinarth Hall Pony Stud, Colwyn Bay, for **Llwyn Satan** 1325, dark grey, born in 1923, bred by Major W. Marshall Dugdale, D.S.O., Llwyn, Llanfyllin; *s.* Kilhendre Celtic Silverlight 953, *d.* 6086 Llwyn Tempter.

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[1] Champion Silver Medal given by the National Pony Society for the best Filly.

[2] Champion Gold Medal given by the National Pony Society for the best Mare or Filly.

[3] Bronze Medal given by the National Pony Society for the best Foal in Class 53 entered in the Supplement to the National Pony Stud Book.

[4] Special Prizes of £2 (First Prize) and £1 (Second Prize) given for the best Dales Pony Foals in Class 54.

[5] Special Prizes of £2 (First Prize) and £1 (Second Prize) given for the best Fell Pony Foals in Class 55.

421 **II. (£10.)**—Hamilton W. Crawford, Fairwood Lodge, Killay, Glam., for **Grove Will o' The Wisp** 1260, grey, born in 1923, bred by Mrs. H. D. Greene, Grove, Craven Arms; *s.* Shooting Star 73, *d.* 3017 Grove Twilight *by* Grove Ballistite 200.
422 **III. (£5.)**—Lady Hunloke, 80, Knightsbridge, London, S.W.1, for **Faraam Mercury** 1380, grey, born in 1924, bred by F. Ffitch Mason, The Faraam, Killay, Glam.; *s.* Bwlch Quicksilver 748, *d.* 4188 Clumber Janet *by* Hardwick Sensation 1045.
425 **R. N.**—Misses May and Summers, Church Moor, Church Stretton, Salop, for **Kilhendre Celtic Meteor.**

Class 58.—*Welsh Mountain Pony Mares, with foals at foot, not exceeding* 12 *hands.*

426 **I. (£15.)**—Mrs. F. Brian Bibby, Sansaw, Shrewsbury, for 5782 **Grove Limestone,** grey, born in 1916 [foal *by* Northern Star], bred by Mrs. H. D. Greene, Grove, Craven Arms; *s.* Bleddfa Shooting Star 73, *d.* 3002 Grove Limelight *by* Dyoll Starlight 4.
428 **II. (£10.)**—Miss N. Mathieson, Gatesheath Cottage, Tattenhall, Chester, for 8541 **Craven Jean,** roan, born in 1925 [foal *by* Master Shot], bred by T. J. Evans, Craven Arms; *s.* Craven Star Shot 1111, *d.* 3546 Forest Tosca *by* Forest Ranger 288.
430 **III. (£5.)**—Misses May and Summers, Church Moor, Church Stretton, Salop, for 8309 **Llwyn Venus,** grey, born in 1923 [foal *by* Grove Elfin 729], bred by Major W. Marshall Dugdale, D.S.O., Llwyn, Llanfyllin; *s.* Kilhendre Celtic Silverlight 953, *d.* 5544 Llwyn Marigold *by* Prince of Cardiff 84.

Riding Classes.[1]

HUNTERS.

Class 61.—*Hunter Mares or Geldings, born in* 1925.

461 **I. (£15.)**—Geoff Kenyon, Armscote House, Stratford-on-Avon, for **Golden Arrow,** chestnut gelding.
462 **II. (£10.)**—Geoff Kenyon, for **Red Ink,** bay gelding.
465 **III. (£5.)**—Major W. H. Rawnsley, Well Vale, Alford, Lincs., for **Topsail,** brown gelding; *s.* Top Covert, *d.* Seagull *by* Prince Charlie 2nd.
471 **IV. (£3.)**—Mrs. E. M. Vaughan, Blackladies, Brewood, Stafford, for **Rover,** chestnut gelding, bred by G. P. Ballard, Park Farm, Shifnal; *s.* King Midas, *d.* Melrose 4th.
460 **R. N.**—Henry Holtby, Middledale, Kilham, Driffield, for **Heeland.**
H. C.—473. **C.**—436.

Class 62.—*Hunter Mares or Geldings (Novice), born in or before* 1925, *up to from* 12 *to* 14 *stones.*

487 **I. (£15.)**—John Drage, Chapel Brampton, Northampton, for **Crusader,** chestnut gelding, born in 1923.
489 **II. (£10.)**—Harold Grainger, Boston Spa, for **The Snob,** bay gelding, born in 1924.
461 **III. (£5.)**—Geoff Kenyon, for **Golden Arrow.** (See Class 61.)
462 **IV. (£3.)**—Geoff Kenyon, for **Red Ink.** (See Class 61.)
439 **R. N.**—Thomas Marton, for **Blue Bell.** (See Class 65.)
H. C.—444. **C.**—443, 484, 492, 502.

Class 63.—*Hunter Mares or Geldings (Novice), born in or before* 1925, *up to more than* 14 *stones.*

485 **I. (£15, & R. N. for Champion.[2])**—John Drage, Chapel Brampton, Northampton, for **David,** bay gelding, born in 1923.
519 **II. (£10.)**—Mrs. Verelst, Melmerby Hall, Ripon, for **Sutton Bank,** bay gelding, born in 1924.
445 **III. (£5.)**—John Darby, Hillmorton, Rugby, for **Sterling,** bay gelding, born in 1923.
515 **IV. (£3.)**—Leonard Snowden, Spa House, Starbeck, Harrogate, for **The Knight,** chestnut gelding, born in 1924.
446 **R. N.**—John Darby, for **The Baron.**
H. C.—490.

Class 64.—*Hunter Mares or Geldings, born in or before* 1924, *up to not more than* 14 *stones. Suitable to carry a lady and to be ridden by a lady side-saddle.*

523 **I. (£15, & Champion.[2])**—Lady Hunloke, 80, Knightsbridge, London, S.W., for **Puzzle,** bay gelding, born in 1923.
522 **II. (£10.)**—Mrs. Hope-Johnstone, Raehills, Lockerbie, for **Last Love,** brown gelding, born in 1922; *s.* Don Juan, *d.* Arlette *by* Blair Vale.
469 **III. (£5.)**—Miss Diana Russell-Allen, Davenham Hall, Northwich, for **Trespasser,** bay gelding, born in 1924.

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[1] Prizes given by the Harrogate Local Committee.

[2] Gold Challenge Cup given by gentlemen interested in Hunters for the best Mare or Gelding.

472 **IV. (£3.)**—Mrs. E. M. Vaughan, Blackladies, Brewood, Stafford, for **Golden Friar**, chestnut gelding, born in 1923, bred by W. Singer, Turf Club, London; *s.* Friar Marcus, *d.* Mots d'Or *by* Chaucer.

478 **R. N.**—Col. the Hon. Guy Wilson, Copgrove, Burton Leonard, Harrogate, for **Kingfisher.**

H. C.—491, 502.

Class 65.—*Hunter Mares or Geldings, born in or before* 1925, *up to from* 12 *to* 13·7 *stones.*

523 **I. (£20.)**—Lady Hunloke, for **Puzzle.** (See Class 64.)

522 **II. (£15.)**—Mrs. Hope-Johnstone, for **Last Love.** (See Class 64.)

472 **III. (£10.)**—Mrs. E. M. Vaughan, for **Golden Friar.** (See Class 64.)

531 **IV. (£5.)**—William Young & Sons, Claremont Stables, Melton Mowbray, for **Wisdom**, grey gelding.

439 **V. (£3.)**—Thomas Marton, Salton Manor, Sinnington, York, for **Blue Bell**, brown mare, born in 1924; *s.* Dunholm, *d.* Marigold *by* Courtisan 2nd.

516 **R. N.**—Leonard Snowden, Spa House, Starbeck, Harrogate, for **Dromnond.**

H. C.—484. **C.**—500.

Class 66.—*Hunter Mares or Geldings, born in or before* 1925, *up to more than* 13·7 *and not more than* 15 *stones.*

487 **I. (£20.)**—John Drage, for **Crusader.** (See Class 62.)

489 **II. (£15.)**—Harold Grainger, for **The Snob.** (See Class 62.)

438 **III. (£10.)**—W. B. Brown, Southolme, Slingsby, York, for **Dunthorn**, bay gelding, born in 1924, bred by Thomas Marton, Salton Manor, Sinnington; *s.* Dunholm, *d. by* Crathorn.

447 **IV. (£5.)**—John Darby, Hillmorton, Rugby, for **Nobleman**, chestnut gelding, born in 1923.

463 **V. (£3)**—Geoff Kenyon, Armscote House, Stratford-on-Avon, for **Skyline**, chestnut gelding, born in 1923.

519 **R. N.**—Mrs. Verelst, for **Sutton Bank.** (See Class 63.)

H. C.—534.

Class 67.—*Hunter Mares or Geldings, born in or before* 1925, *up to more than* 15 *stones.*

485 **I. (£20.)**—John Drage, for **David.** (See Class 63.)

538 **II. (£15.)**—Lady Ainsworth, Ardanaiseig, Kilchrenan, Argyll, for **Golden Guinea**, chestnut gelding, born in 1923, bred by T. D. O'Connor, Newcastle West, Ireland; *s.* New Guinea, *d. by* Ferdinand.

543 **III. (£10.)**—J. Kenneth Stevenson, The Chase, Upper Welland, Malvern, for **Blue Train**, bay gelding, born in 1922.

542 **IV. (£5.)**—F. G. D. Colman, Burgh Lodge, Melton Mowbray, for **Hop**, brown gelding, born in 1921.

445 **V. (£3.)**—John Darby, for **Sterling.** (See Class 63.)

541 **R. N.**—F. G. D. Colman, for **Borrowstone.**

H. C.—515.

HACKS.

Class 68.—*Hack Mares or Geldings, not exceeding* 15 *hands.*

504 **I. (£15.)**—Lt.-Col. Sir Archibald Weigall, K.C.M.G., Petwood, Woodhall Spa, for **Radiant**, bay gelding, born in 1926, bred by John Walker, Knightwick Manor, Worcester; *s.* Regent, *d.* Amnity *by* Amplion.

548 **II. (£10.)**—The Dowager Lady Penrhyn, Wicken Park, Bletchley, for **Susannah**, black mare, born in 1923; *s.* Prince Friarstown, *d.* Hannah Ann *by* Chari.

524 **III. (£5.)**—Lady Hunloke, 80, Knightsbridge, London, S.W., for **Cherry**, chestnut mare, born in 1924.

547 **IV. (£3.)**—Lady Muriel Liddell-Grainger, Ayton Castle, Berwickshire, for **Mida**, brown mare, born in 1923; *s.* Billiedere, *d.* Miss Muffet.

453 **R. N.**—J. and M. Farnell, County Hunting Stables, Harrogate, for **False Alarm.**

Class 69.—*Hack Mares or Geldings, over* 15 *hands.*

506 **I. (£15, & Champion.[1])**—J. V. Rank, Barn Ridge, South Nutfield, Surrey, for **Lord Slane**, bay gelding, born in 1925.

525 **II. (£10, & R. N. for Champion.[1])**—Lady Hunloke, 80, Knightsbridge, London, S.W., for **White Owl**, grey mare, born in 1924.

544 **III. (£5.)**—J. Kenneth Stevenson, The Chase, Upper Welland, Malvern, for **Red Cherry**, chestnut gelding, born in 1923.

510 **IV. (£3.)**—The Hon. Dorothy Paget, 8, Balfour Place, Park Lane, London, W., for **Supercharge**, bay gelding, born in 1921.

549 **R. N.**—The Dowager Lady Penrhyn, Wicken Place, Bletchley, for **Mirabelle.**

Silver Challenge Cup given by a Member of the R.A.S.E. for the best Hack.

Class 70.—*Hack Mares or Geldings, suitable to carry a lady and to be ridden by a lady side-saddle.*

506 I. (£15.)—J. V. RANK, for **Lord Slane**. (See Class 69.)

525 II. (£10.)—LADY HUNLOKE, for **White Owl**. (See Class 69.)

524 III. (£5.)—LADY HUNLOKE, for **Cherry**. (See Class 68.)

547 IV. (£3.)—LADY MURIEL LIDDELL-GRAINGER, for **Mida**. (See Class 68.)

544 R. N.—J. KENNETH STEVENSON, for **Red Cherry**. (See Class 69.)

CHILDREN'S PONIES.

Class 71.—*Pony Mares or Geldings, not exceeding* 13 *hands, to be ridden by a child born in or after* 1919.

552 I. (£10.)—MISS MERCY COCKBURN, Budbrook Lodge, Warwick, for **Sheik**, grey gelding, born in 1925.

557 II. (£5.)—ANDREW MASSARELLA, Belmont, Bentley, Doncaster, for **Steel Dust**, grey gelding, born in 1923.

558 III. (£3.)—MRS. C. PACEY, Clifton Hall, Rugby, for **Mickie**, grey gelding.

560 R. N.—MASTER BERNARD TURNER, Cherry Tree Farm, Whitley Bridge, Yorks, for **Betty Wyke**.
H. C.—553.

Class 72.—*Pony Mares or Geldings, over* 13 *and not exceeding* 14 *hands, to be ridden by a child born in or after* 1916.

566 I. (£10.)—MISS BETTY LANGSTON, Furnivalls, Amersham, Bucks, for **Who's Who**, bay gelding, born in 1921.

569 II. (£5.)—MRS. C. PACEY, Clifton Hall, Rugby, for **Flame**, chestnut gelding, born in 1923.

568 III. (£3.)—MAJOR HAROLD NICKOLS, The Bridge House, Harewood, Leeds, for **Geisha**, grey mare, born in 1924.

563 R. N.—MAJOR A. P. COOPER, York House, Malton, for **Dawn**.
H. C.—564. C.—570, 571.

Class 73.—*Pony Mares or Geldings, over* 14 *and not exceeding* 15 *hands, to be ridden by a child born in or after* 1913.

573 I. (£10.)—MISS NANCY CAIL, Clipstone, Catterick Bridge, for **Fashion**, grey mare.

548 II. (£5.)—THE DOWAGER LADY PENRHYN, for **Susannah**. (See Class 68.)

574 III. (£3.)—MAJOR HAROLD NICKOLS, The Bridge House, Harewood, Leeds, for **Lillie Elsie**, chestnut mare, born in 1922.

512 R. N.—T. LEO PAISLEY, The Riding School, Harrogate, for **Redwing**.

Driving Classes.[1]

SINGLE HARNESS.

Class 74.—*Harness Mares or Geldings (Novice), not exceeding* 14 *hands.*

589 I. (£15.)—ARTHUR RALPH FISH, Holme Mead, Hutton, Preston, for **Penwortham Creation**, bay mare, born in 1923.

601 II. (£10.)—WILLIAM S. MILLER, Balmanno Castle, Bridge of Earn, for **Flight Cadet**, brown gelding, born in 1926, bred by Mrs. P. Steavenson, Darlington; *s.* Braishfield Fuse 13567, *d.* 24499 Glenavon Chocolate Drop *by* Chocolate Soldier 11731.

578 III. (£5.)—ROBERT BLACK, The Grove, Osbaldwick, York, for **Trillo Britannia**, bay mare, born in 1924, bred by John Jones & Son, Dinarth Hall, Colwyn Bay; *s.* Braishfield Fuse 13567, *d.* 20479 Alms Hill Lady *by* Talke Fire King 9932.

617 R. N.—FRANK C. MINOPRIO, Avening Court, Avening, Glos., for **Braishfield Fuel**.
H. C.—586.

Class 75.—*Harness Mares or Geldings (Novice), over* 14 *and not exceeding* 15 *hands.*

604 I. (£15.)—WILLIAM S. MILLER, Balmanno Castle, Bridge of Earn, for **26636 Warwick Valencia**, brown mare, born in 1923, bred by E. O. Boston, Wylde Green, Birmingham; *s.* Haydon's King Rufus 12860, *d.* 26631 Warwick Elegance *by* Warwick Polonius 12942.

619 II. (£10, & R. N. or Champion.[2])—JAMES MONKS, Shuttleworth, Ramsbottom, Lancs, for **Excelsior**, chestnut gelding, born in 1924; *s.* Buckley Courage 13771, *d.* Spring Bells *by* Mathias 6473.

612 III. (£5.)—FRANK C. MINOPRIO, Avening Court, Avening, Glos., for **Merevale Maiden**, bay mare, born in 1924, bred by A. W. Tunbridge, Dordon Hall, Tamworth; *s.* Merevale Fusee 13903, *d.* 25263 Merevale Maid *by* Mathias 6473.

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[1] Prizes given by the Harrogate Local Committee.

[2] Gold Challenge Cup given by a Member of the Hackney Horse Society for the best animal in the Novice Classes.

588 R. N.—D. R. BLAIR, Furnivalls, Amersham, Bucks, for **Powder Monkey.**
H. C.—598.

Class 76.—*Harness Mares or Geldings (Novice), over* 15 *hands.*

605 I. (£15, Champion,[1] & R. N. for Champion.[2])—WILLIAM S. MILLER, Balmanno Castle, Bridge of Earn, for **Knight of the Thistle** G. 567, black gelding, born in 1924, bred by Enoch Glen, Kaim Park, Bathgate; *s.* Ophelius 13344, *d.* 23567 Pallas Athene *by* Mathias 6473.

580 II. (£10.)—GEORGE SHEPPARD, Bryn-Glas Hackney Stud, St. Brides, Newport, Mon., for **Leading Minister** G. 675, chestnut gelding, born in 1924; *s.* Capenor King's Minister 13724, *d.* 24826 Axholme Elegance *by* Mathias 6473.

628 III. (£5.)—MRS. FLETCHER & SONS, Angram, York, for 26494 **Angram Olympia,** dark chestnut mare, born in 1925, bred by William Martin, Stamford Bridge, York; *s.* Angram Majesty 11967, *d.* 23735 Princess Dora Mary *by* Beckingham Squire.

592 R. N.—ARTHUR RALPH FISH, Holme Mead, Hutton, Preston, for **Penwortham Perfect Motion.**

Class 77.—*Harness Mares or Geldings, not exceeding* 13·2 *hands.*

606 I. (£15.)—WILLIAM S. MILLER, Balmanno Castle, Bridge of Earn, for 26108 **Eastertide,** brown mare, born in 1923, bred by J. E. Tweedale, Marland, Rochdale; *s.* Southworth Swell 11219, *d.* 22616 Hollin Glow Worm *by* Torchfire 9472.

623 II. (£10.)—MRS. EDGAR HENRIQUES, Fernholm, Hesketh Park, Southport, for 26638 **Fleetwood Rainbow,** bay mare, born in 1925, bred by E. O. Boston, Wylde Green, Birmingham; *s.* Vortex 14416, *d.* 26637 Buckley Sunlight *by* Buckley Searchlight 13164.

589 III. (£5.)—ARTHUR RALPH FISH, Holme Mead, Hutton, Preston, for **Penwortham Creation,** bay mare, born in 1923.

614 R. N.—FRANK C. MINOPRIO, Avening Court, Avening, Glos., for **Miss Appleby.**
H. C.—586.

Class 78.—*Harness Mares or Geldings, over* 13·2 *and not exceeding* 14 *hands.*

608 I. (£15.)—WILLIAM S. MILLER, Balmanno Castle, Bridge of Earn, for **Fuse Junior** G 556, bay brown gelding, born in 1924; *s.* Braishfield Fuse 13567, *d.* 25159 Buckley Poppy *by* Little Briton 11813.

624 II. (£10.)—MRS. EDGAR HENRIQUES, Fernholm, Hesketh Park, Southport, for **Cestrian Furious** G 283, brown gelding, born in 1917, bred by J. T. Shield, Burnopfield, Co. Durham; *s.* Sir Ivor 12737, *d. by* Torchfire 9472.

595 III. (£5.)—MRS. HORACE HILTON, Plas Isa, Corwen, for **Corwen Onyx,** black mare, born in 1926; *s.* Holyport Ruby, *d.* Kenwicks Ogee.

596 R. N.—PAUL HOFFMANN, 4, Cardigan Mansions, Richmond Hill, Surrey, for **Orford Coquette.**

Class 79.—*Harness Mares or Geldings, over* 14 *and not exceeding* 15 *hands.*

581 I. (£15.)—ROBERT THOMSON, Cora Linn, Peckham, London, S.E., for 26252 **Haddon Fascination,** bay mare, born in 1922, bred by Philip Smith, Ashton-on-Mersey; *s.* Southworth Swell 11219, *d.* 19347 Melbourne Princess *by* Merry Wildfire 9342.

604 II. (£10.)—WILLIAM S. MILLER, for **Warwick Valencia.** (See Class 75.)

627 III. (£5.)—J. PARTINGTON, Ashley View, Marfleet, Hull, for 25935 **Ashley Lady Campion,** bay mare, born in 1922; *s.* Bertrano 13288, *d.* 19253 Lady Campion *by* Mathias 6473.

612 R. N.—FRANK C. MINOPRIO, for **Merevale Maiden.** (See Class 75.)

Class 80.—*Harness Mares or Geldings, over* 15 *and not exceeding* 15·2 *hands.*

605 I. (£15.)—WILLIAM S. MILLER, for **Knight of the Thistle.** (See Class 76.)

582 II. (£10.)—J. W. G. SMITH, Wensleydale Stud, Aysgarth S.O., Yorks, for **Wensleydale Eclat** G 668, brown gelding, born in 1924; *s.* Bertrano 13288, *d.* 24506 Glenavon Lightsome *by* Mathias 6472.

600 III. (£5.)—PAUL HOFFMANN, 4 Cardigan Mansions, Richmond Hill, Surrey, for **Orford Hero** G 246, dark chestnut gelding, born in 1915, bred by F. Dee, Malton; *s.* Craganour 12343, *d.* 19994 Huggate Madge *by* Ganymede 2076.

629 R. N.—C. H. MUMBY, 205 North Boulevard, Hull, for **Boulevard Squire.**
H. C.—599.

Class 81.—*Harness Mares or Geldings, over* 15·2 *hands.*

579 I. (£15, & Champion.[2])—ROBERT BLACK, The Grove, Osbaldwick, York, for **Field Adjutant** G 496, bay gelding, born in 1921, bred by Miss R. B. Babcock, Shawlands, Lingfield *s.* Danum Grand Fashion 13588, *d.* 21876 Blanca *by* Leopard 9783.

580 II. (£10.)—GEORGE SHEPPARD, for **Leading Minister.** (See Class 76.)

628 III. (£5.)—MRS. FLETCHER & SONS, for **Angram Olympia.** (See Class 76.)

615 R. N.—FRANK C. MINOPRIO, Avening Court, Avening, Glos., for **Nottingham Princess.**
H. C.—625.

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[1] Gold Challenge Cup given by a Member of the Hackney Horse Society for the best animal in the Novice Classes.

[2] The "Balmanno" Silver Challenge Cup given by a Member of the R.A.S.E. for the best animal in Classes 77 to 81.

DOUBLE HARNESS.

Class 82.—*Harness Mares or Geldings.*

630 & 631 **I. (£15.)**—Theo Hignett, St. Ives, Sandfield Park, West Derby, Liverpool, for **Kentmere King**, bay gelding, born in 1915, bred by G. H. Wright, Moreton, Bingley, Yorks; *s.* Mathias 6473, *d.* 16122 Queen of Newton *by* Royal Danegelt 5785; and **Lord Jessamine** G 354, bay gelding, born in 1918, bred by Robert Scott, Thornhome, Carluke; *s.* Mathias 6473, *d.* 11519 Sweet Jessamine *by* Robert Elsmere 2659.

608 & 609 **II. (£10.)**—William S. Miller, for **Fuse Junior** (see Class 78), and **Regal Presence** G 609, bay gelding, born in 1924, bred by Enoch Glen, Kaim Park, Bathgate *s.* Melbourne Afire 13942, *d.* 23129 Glenavon Princess Caprice *by* Fire Boy 7440.

599 & 600 **III. (£5.)**—Paul Hoffman, for **Orford Herald** G 398, dark chestnut gelding, born in 1917, bred by William Flanders, Ely; *s.* Witcham Friar Tuck 8036, *d.* 25002 Witcham Lady *by* Antonius 10559; and **Orford Hero.** (See Class 80.)

632 & 634 **R. N.**—Theo Hignett, for **Sefton Cavalier** and **Sefton Courtier.**

TANDEMS.

Class 83.—*Harness Mares or Geldings.*

599 and 600 **I. (£15.)**—Paul Hoffman, for **Orford Herald** (see Class 82), and **Orford Hero** (see Class 80).

630 & 631 **II. (£10.)**—Theo Hignett, for **Kentmere King** and **Lord Jessamine.** (See Class 82.)

CATTLE.

Shorthorns.

Class 84.—*Shorthorn Bulls, born in or before* 1926.

656 **I. (£15, R. N. for Champion,[1] and R. N. for Champion.[2])**—Joseph Harris, Brackenburgh Tower, Carlisle, for **Oxford Duke of Calthwaite 100th** 201491, dark roan, born Dec. 18, 1924; *s.* Pride of Belmont 192977, *d.* 13722 Oxford Duchess of Calthwaite 97th *by* Gainford Grand Duke 125637.

650 **II. (£10.)**—Alexander & Addie, Newbiggin, Cambus, Stirling, for **Collynie Red King** 214704, red, born Jan. 31, 1926, bred by Duthie Webster, Collynie, Tarves; *s.* King William 173110, *s.* 22597 Lutwyche Crocus *by* Cluny Mintmaster 147996.

662 **III. (£5.)**—Fanny Lady Leon, Bletchley Park, Bletchley, for **Bletchley Clipper King** 213624, roan, born Jan. 10, 1926, bred by the late Sir Herbert Leon Bart.; *s.* King's Messenger 173092, *d.* 51502 Clipper Lady *by* Balcairn Royal Diamond 160962.

665 **IV. (£4.)**—J. and H. P. Webster, Abbey Farm, Yedingham, West Heslerton, Malton, for **Bainesse Rosebud King 4th** 195849, red and little white, born Nov. 16, 1924, bred by J. M. Strickland, Bainesse, Catterick; *s.* Brandsby's Lord Ramsden 7th 169452, *d.* 30592 Bainesse Rosebud 2nd *by* Cudham Max 155167.

663 **R. N.**—Albert James Marshall, Bridgebank, Stranraer, for **Beaufort Royal Prince.**
H. C.—653, 660. **C.**—655, 659.

Class 85.—*Shorthorn Bulls, born on or between January* 1 *and March* 31, 1927.[3]

669 **I. (£15, Champion,[1] Champion,[2] & Champion.[4])**—Albert James Marshall, Bridgebank, Stranraer, for **Bridgebank Vulcan** 221490, roan, born Jan. 10; *s.* Bridgebank Annum 187694, *d.* 39759 Virtue *by* Balcairn Baronet 153566.

668 **II. (£10.)**—Albert James Marshall, for **Bridgebank Airican** 221346, white, born Jan. 28; *s.* Bridgebank Annum 187694, *d.* Augusta Fashoda *by* Gainford Ringleader 136657.

666 **III. (£5.)**—Hugh Baker, Chedglow, Malmesbury, for **David of Chedglow** 222573, red and little white, born Jan. 7; *s.* Lutwyche Mint 178747, *d.* 33076 Chedglow Dorothy 6th *by* Swinton St. Pierre 145820.

667 **R. N.**—Augustus Leverton Jessopp, Lexham Hall, King's Lynn, for **Lexham President.**

668, 669, 699 **Special I. £15.**[5]—Albert James Marshall, for **Bridgebank Airican, Bridgebank Vulcan and Cruggleton Patrician.**

Class 86.—*Shorthorn Bulls, born on or between April* 1 *and December* 31, 1927.

679 **I. (£15.)**—George Swift, Haselor, Evesham, for **Haselor Golden Luck** 223648, dark roan, born Oct. 29; *s.* Haselor Clipper King 208055, *d.* 12168 Golden Aster *by* Clipper Seal 135773.

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[1] Champion Prize of £20 given by the Shorthorn Society for the best Bull. A Silver Medal is given by the Shorthorn Society to the Breeder of the Champion Bull.

[2] Silver Challenge Cup given by the Argentine Shorthorn Breeders' Association for the best Bull.

[3] Prizes, except Fourth and Fifth, given by the Shorthorn Society.

[4] The "Brothers Colling" Memorial Perpetual Challenge Cup given through the Durham Agricultural Committee for the best Shorthorn.

[5] Special Prizes of £15 First Prize and £10 Second Prize given by the Shorthorn Society for the best groups of three animals bred by Exhibitor.

670 **II. (£10.)**—H.R.H. THE PRINCE OF WALES, K.G., Grove Farm, Lenton, Nottingham, for **Lenton Royal Knight** 224464, roan, born July 2; *s.* Collynie Carnival 188637, *d.* 57526 Roan Millicent *by* Littleton Royal 173496.

671 **III. (£5.)**—WILLIAM BARNES, The Street, Wigton, for **Corston Juniper** 222306, white, born April 29, bred by T. A. Buttar, Corston, Coupar Angus; *s.* Collynie Metaphor 188650, *d.* 21822 Golden Flower 12th *by* Royal Gauntlet 159046.

678 **IV. (£4.)**—ALBERT JAMES MARSHALL, Bridgebank, Stranraer, for **Bridgebank Scribe** 221481, red, born Sept. 21; *s.* Bridgebank Annum 187694, *d.* 5599 Secret Floriday *by* Gainford Ringleader 136657.

672 **R. N.**—WILLIAM W. FRANK, Walshford, Wetherby, *for* **Kinellar Juggler.**

670, 683, 703 **Special II. £10.**[1]—H.R.H. THE PRINCE OF WALES, K.G., for **Lenton Royal Knight, Lenton Knight** and **Lenton Royal Crest.**

Class 87.—*Shorthorn Bulls, born on or between January* 1 *and March* 31, 1928.[2]

699 **I. (£15.)**—ALBERT JAMES MARSHALL, Bridgebank, Stranraer, for **Cruggleton Patrician,** roan, born Feb. 21; *s.* Balcairn Baronet 153566, *d.* Princess Christina (vol. 63, p. 999) *by* Broadhooks Diamond 124530.

698 **II. (£10.)**—W. S. MACWILLIAM, M.V.O., Garbity, Orton Station, Morayshire, for **Rosehaugh White Eagle,** white, born March 16, bred by J. D. Fletcher, Rosehaugh, Avoch; *s.* Collynie Royal Leader 188656, *d.* 36350 Rosehaugh Clipper 5th *by* Millhills Macebearer 157773.

683 **III. (£5.)**—H.R.H. THE PRINCE OF WALES, K.G., Grove Farm, Lenton, Nottingham, for **Lenton Knight,** white, born Jan. 1; *s.* Aldie Knight 204372, *d.* 77317 Doune Eliza 3rd *by* Calrossie Clipper Captivator 188122.

695 **IV. (£4.)**—H. and F. B. HIRSCH, Low Hall, Dacre, Harrogate, for **Dacre Kit,** roan, born March 8; *s.* Millhills Royal Roman 217615, *d.* 74837 Dacre Clipper Maiden 2nd *by* Cluny Primrose Star 188578.

692 **V. (£3.)**—WILLIAM W. FRANK, Walshford, Wetherby, for **Walshford Aristocrat,** white, born Jan. 18; *s.* Walshford Ramsden King 219910, *d.* 48879 Walshford White Queen *by* Violet Rover 177049.

700 **R. N.**—GEORGE SWIFT, Haselor, Evesham, for **Rosehaugh Royal Chief.**

H. C.—694, 697. **C.**—690, 693, 696.

695, 754, 760 **R. N. for Specials.**[1]—H. and F. B. HIRSCH, for **Dacre Kit, Dacre Dorothy 3rd** and **Dacre Dorothy 6th.**

Class 88.—*Shorthorn Bulls, born on or between April* 1 *and June* 30, 1928.

703 **I. (£15.)**—H.R.H. THE PRINCE OF WALES, K.G., Grove Farm, Lenton, Nottingham, for **Lenton Royal Crest,** red, born April 4; *s.* Balcairn Crescent 204680, *d.* 92307 Balcairn Princess Ida *by* Collynie Golden Eagle 170454.

706 **II. (£10.)**—JOSEPH BARNES, Barugh Syke, Wigton, for **Barugh Secret Star,** dark roan, born April 2; *s.* King Edward 164538, *d.* 49304 Penton Secret 3rd *by* Collynie Golden Key 170455.

704 **III. (£5.)**—ALEXANDER & ADDIE, Newbiggin, Cambus, Stirling, for **Cambus Ingot,** dark roan, born April 30; *s.* Balmuchy Baronet 213217, *d.* Butterfly 30th (vol. 62, p. 610) *by* Cupbearer of Collynie 114960.

717 **IV. (£4.)**—ALBERT JAMES MARSHALL, Bridgebank, Stranraer, for **Cruggleton Aitken,** roan, born April 6; *s.* Bridgebank Retrospect 161657, *d.* 27336 Augusta Annette *by* Bridgebank Clipper Chief 147524.

718 **V. (£3.)**—THE HON. MRS. BRUCE WARD, Godinton, Ashford, Kent, for **Godinton Jolly Boy,** red, born April 17; *s.* Lacton Ajax 216885, *d.* 63488 Blythesome 45th *by* Quartermaster 132925.

711 **R. N.**—WILLIAM W. FRANK, Walshford, Wetherby, for **Walshford Field Marshal.**

H. C.—702, 719. **C.**—707, 713.

Class 89.—*Shorthorn Bulls, born on or between July* 1 *and December* 31, 1928.[2]

724 **I. (£15.)**—LT.-COL. E. P. BRASSEY, Manor Farm, Upper Slaughter, Glos., for **Baron Secret,** roan, born July 30; *s.* Abbeymains Combatant 168245, *d.* 48690 Rosehaugh Secret 3rd *by* Last Baron 157072.

734 **II. (£10.)**—SIR GEORGE VERNON PROCTOR WILLS, BART., Langford Court Farm, Langford, Bristol, for **Rickford Emerald,** dark roan, born July 4, bred by the late Sir George A. Wills, Bart., Langford Court; *s.* Cudham Prospect 206506, *d.* 92921 Rickford Eliza 3rd *by* Collynie Royal Regent 148043.

725 **III. (£5.)**—SIR CECIL CHUBB, BART., Bapton Manor, Codford, Wilts, for **Bapton Scottish Prince,** red, born July 21; *s.* Collynie Viceroy 188660, *d.* 22145 Cluny Broadhooks *by* Cluny Prince Royal 154876.

729 **IV. (£4.)**—J. and R. HARRISON, Gainford Hall, Gainford S.O., Co. Durham, for **Gainford De Reszke,** red and little white, born Sept. 1; *s.* Gainford Revolution 215729, *d.* 80795 Lady Dorothy 84th *by* Clipper Marshal 188527.

733 **R. N.**—THE HON. MRS. BRUCE WARD, Godinton, Ashford, Kent, for **Godinton Cloudy Yellow.**

H. C.—728. **C.**—730.

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[1] Special Prizes of £15 First Prize and £10 Second Prize given by the Shorthorn Society for the best groups of three animals bred by Exhibitor.

[2] Prizes, except Fourth and Fifth, given by the Shorthorn Society.

Class 90.—*Shorthorn Cows, in-milk, born in or before* 1925.

737 **I. (£15, Champion[1] & R. N. for Champion.[2])**—Fanny Lady Leon, Bletchley Park, Bletchley, for 51506 **Vanity**, roan, born Feb. 3, 1923, calved March 20, 1929, bred by the late Sir Herbert Leon, Bart., Bletchley Park; *s.* Balcairn Royal Diamond 160962, *d.* Vanity Fair *by* Prince Rudolph 117072.

735 **II. (£10.)**—Fred Allison, Lilac Farm, Yedingham, Malton, for 45103 **Yedingham Mina 2nd**, roan, born Feb. 25, 1923, calved May 22, 1929; *s.* Allerston Standard 160698, *d.* 9755 Yedingham Mina *by* Doune Asterisk 130653.

738 **III. (£5.)**—Lt.-Col. E. W. Stanyforth, C.B., Kirk Hammerton Hall, York, for 37633 **Fairenough**, born March 27, 1922, calved Oct. 2, 1928, bred by G. Hicks, Field House, Hutton, Guisborough; *s.* Upsall Rex 167725, *d.* Swinton Phantom 5th by Sanquhar Searchlight 122748.

736 **R. N.**—Sir Bernard Greenwell, Bart., Marden Park, Woldingham, Surrey, for **Marden Pure Gold 2nd.**

Class 91.—*Shorthorn Heifers, in-milk, born in* 1926.

742 **I. (£15.)**—Major Clive Behrens, Swinton Grange, Malton, for 82559 **Swinton Maid Ramsden 13th**, red, born Aug. 16, calved Feb. 20, 1929; *s.* Swinton Regent 185567, *d.* 10259 Swinton Maid Ramsden 4th *by* Engineer 120145.

743 **II. (£10.)**—C. E. Gunther, Tongswood, Hawkhurst, for 88339 **Cudham Butterfly 21st**, red, born Feb. 16, calved Oct. 15, 1928, bred by A. M. Maconochie, Cudham, Kent; *s.* Cudham Golden Link 197765, *d.* 52111 Cudham Butterfly 9th *by* Cudham Norseman 170764.

744 **III. (£5.)**—Capt. J. F. H. Houldsworth, Coltness, Wishaw, Scotland, for 86833 **Coltness Missie**, dark roan, born June 19, calved Dec. 24, 1928; *s.* Denton Triumph 197995, *d.* 53249 Alnwick Sweet Missie *by* Aldsworth Duke 123844.

746 **R. N.**—Messrs. Law, Mains of Sanquhar, Forres, for **Sanquhar Zoe 82nd.**

Class 92.—*Shorthorn Heifers, born in* 1927.

748 **I. (£15 & R.N. for Champion,[1])**—His Majesty The King, The Royal Farms, Windsor, for 103127 **Lady Augusta 3rd**, roan, born Jan. 19, bred by George Walker, Tillygreig, Udny, Aberdeenshire; *s.* Collynie Vantage 206330, *d.* 68776 Lady Augusta 2nd *by* Collynie First President 162340.

750 **II. (£10.)**—Sir Cecil Chubb, Bart., Bapton Manor, Codford, Wilts, for 95198 **Bapton Crocus 6th**, white, born Feb. 18; *s.* Roan Robin 202241, *d.* 32005 Cyclamen *by* Bapton Malcolm 134909.

747 **III. (£5.)**—His Majesty The King, for 103125 **Goldie 68th**, white, born Feb. 9, bred by George Walker, Tillygreig, Udny, Aberdeenshire; *s.* Clipper Marshal 188527, *d.* 47313 Goldie 61st *by* Collynie First President 162340.

752 **IV. (£4.)**—Sir Bernard Greenwell, Bart., Marden Park, Woldingham, Surrey, for 97225 **Marden Nonpareil**, dark roan, born Jan. 9; *s.* Collynie Viceroy 188660, *d.* 39581 Cudham Nonpareil 4th *by* Cudham Dane 162578.

751 **R. N.**—Miss Nancy Fieldhouse, Shipton Manor, Andoversford, Cheltenham, for **Cotehay Augusta 5th.**

H. C.—754, 755.

Class 93.—*Shorthorn Heifers, born on or between January* 1 *and March* 31, 1928.

762 **I. (£15.)**—J. R. Upson, Rush Court, Wallingford, for **Collynie Royal Princess**, roan, born Jan. 15, bred by Duthie Webster, Collynie, Tarves; *s.* Quetta 218391, *d.* 81070 Collynie Princess 45th *by* Collynie Royal Leader 188656.

760 **II. (£10.)**—H. and F. B. Hirsch, Low Hall, Dacre, Harrogate, for **Dacre Dorothy 6th**, white, born Jan. 11; *s.* Cluny Primrose Star 188587, *d.* 37730 Dacre Dorothy *by* Royal Briton 151721.

756 **III. (£5.)**—Hugh Baker, Chedglow, Malmesbury, for **Ceres 93rd**, red and little white, born Jan. 14; *s.* Lutwyche Mint 173747, *d.* Ceres 47th (vol. 63, p. 646) *by* Roderick Random 106823.

757 **IV. (£4.)**—Sir Cecil Chubb, Bart., Bapton Manor, Codford, Wilts, for **Bapton Princess Royal 6th**, roan, born Jan. 23; *s.* Collynie Viceroy 188660, *d.* (Vol. 65, p. 1202) Princess Agnes *by* Boquhan Stamp 114408.

758 **R. N.**—Sir Bernard Greenwell, Bart., Marden Park, Woldingham, Surrey, for **Marden Clipper 8th.**

Class 94.—*Shorthorn Heifers, born on or between April* 1 *and December* 31, 1928.

766 **I. (£15.)**—H.R.H. The Prince of Wales, K.G., Home Farm, Stoke Climsland, Cornwall, for **Climsland Orange Blossom 7th**, red roan, born May 4; *s.* Climsland Golden Ray 197372, *d.* Orange Blossom 48th (Vol. 64, p. 870) *by* Mesmerist 121570.

769 **II. (£10.)**—Major Clive Behrens, Swinton Grange, Malton, for **Swinton Maid Ramsden 14th**, roan, born May 12; *s.* Cudham Masterpiece 188875, *d.* 556 Swinton Maid Ramsden 2nd *by* Swinton Saint 110369.

768 **III. (£5.)**—Alexander & Addie, Newbiggin, Cambus, Stirling, for **Cambus Gwendoline**, roan, born May 1; *s.* Balmuchy Baronet 213217, *d.* 45066 Gwendoline *by* Congalton Proud Banner 170531.

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[1] Champion Prize of £20 given by the Shorthorn Society for the best Cow or Heifer. A Silver Medal is given by the Shorthorn Society to the Breeder of the Champion Cow or Heifer.

[2] The "Brothers Colling" Memorial Perpetual Challenge Cup given through the Durham Agricultural Committee for the best Shorthorn.

770 IV. (£4.)—Miss A. Sylvia Brocklebank, O.B.E., Wing Grange, Oakham, for **Wing Broadhooks,** roan, born May 17; *s.* Haselor Clipper Star 216188, *d.* 91607 Haselor Broadhooks 4th *by* Rothiebrisbane Bulwark 202379.

771 V. (£3.)—William W. Frank, Walshford, Wetherby, for **Walshford Augusta 7th,** dark roan, born April 10; *s.* Walshford Ramsden King 3rd 219910, *d.* 85427 Walshford Augusta 5th *by* Winkfield Wonder 204086.

772 R. N.—L. V. Garland, Greenbank, The Towans, Hayle, for **Towan Blossom.**
H. C. 767.

Herefords.

Class 95.—*Hereford Bulls, born on or before August* 31, 1926.

781 I. (£15.)—William Everall, Shrawardine Castle, Shrewsbury, for **Premier of Pitsford** 42757, born Feb. 19, 1922, bred by G. H. Drummond, Pitsford Hall, Northampton; *s.* Sir Sam 33131, *d.* Prudence of Pitsford *by* America 34550.

780 II. (£10.)—The Hon. Mrs. Devereux, Hampton Court, Leominster, for **Free Town Vincent** 44880, born Feb. 11, 1924, bred by P. E. Bradstock, Free Town, Tarrington, Herefordshire; *s.* Aldersend Napier 35844, *d.* Vanity *by* Koh-i-Nor 37124.

Class 96.—*Hereford Bulls, born on or between September* 1, 1926, *and August* 31, 1927.

787 I. (£15, Champion,[1] & Champion.[2])—Ernest Stevens, Chapel Farm, Elmley Castle, Pershore, for **Pershore Juice** 48487, born Dec. 31, 1926; *s.* Rose Showman 39935, *d.* Orange 13th *by* Emperor 39082.

782 II. (£10.)—Henry James Dent, Perton Court, Stoke Edith, Hereford, for **Perton Jumbo** 49659, born Dec. 6, 1926; *s.* Percentage 37655, *d.* Lively 45th *by* Sunclad 28762.

784 III. (£5.)—Sir David R. Llewellyn, Bart., The Court, St. Fagans, for **St. Fagans Pandarus** 49803, born Jan. 26, 1927; *s.* Priory Norseman 46340, *d.* Pansy of Pitsford 2nd *by* Prince of Pitsford 41499.

785 R. N.—John Parr, Burton, Linton, Ross, Herefordshire, for **Burton Jewel.**
H. C.—786.

Class 97.—*Hereford Bulls, born on or between September* 1 *and November* 30, 1927.[3]

795 I. (£15, R. N. for Champion,[1] & R. N. for Champion.[2])—Charles Henry Morris, Weston Court, Pembridge, for **Weston Frontispiece,** born Sept. 7; *s.* Hilarious 44969, *d.* Poppy (Vol. 46, p. 771) *by* Regent 30025.

800 II. (£10.)—T. L. Walker, The Cedars, Broadwas-on-Teme, Worcester, for **Ankerdine Royalist** 48861, born Sept. 29; *s.* Oddfellow 39680, *d.* Ankerdine Rosalind *by* Bodenham Goodwood 36043.

792 III. (£5.)—H. R. Griffiths, Little Tarrington, Hereford, for **Free Town Director** 49237, born Nov. 27, bred by P. E. Bradstock, Free Town, Tarrington; *s.* Crossways Saphlute 44732, *d.* Barbara 2nd *by* Aldersend Napier 35844.

789 IV. (£4.)—Percy E. Bradstock, Free Town, Tarrington, Herefordshire, for **Free Town Admiral** 49233, born Oct. 3; *s.* Crossways Saphlute 44732, *d.* Heather *by* Time Test 26529.

799 V. (£3.)—John Walker, Knightwick Manor, Worcester, for **Knightwick Ben,** born Nov. 22; *s.* Rochford Batman 41575, *d.* Gamester's Beauty 22nd (Vol. 56, p. 650) *by* Levity 32697.

796 R. N.—William Smith, The Leen, Pembridge, for **Leen Graft.**
H. C.—790. C.—791, 793, 794.

Class 98.—*Hereford Bulls, born on or between December* 1, 1927, *and February* 29, 1928.

802 I. (£15.)—Percy E. Bradstock, Free Town, Tarrington, Herefordshire, for **Free Town Remus** 49243, born Jan. 24, 1928; *s.* Crossways Saphlute 44732, *d.* Silver *by* Union Jack 31136.

807 II. (£10.)—Henry Moore, Junr., Shucknall Court, Hereford, for **Tarrington Model** 49836, born Dec. 6, 1927, bred by H. R. Griffiths, Little Tarrington, Hereford; *s.* Gaines Albion 45982, *d.* Melody *by* Sugwas Monarch 44263.

805 III. (£5.)—William Everall, Shrawardine Castle, Shrewsbury, for **Shraden Investment** 49785, born Feb. 18, 1928; *s.* Shraden Gambler 47584, *d.* Shraden Lily (Vol. 53, p. 245) *by* Free Town Renown 42314.

803 IV. (£4.)—Percy E. Bradstock, for **Knapp Right** 49401, born Jan. 20, 1928, bred by C. T. Smith, The Knapp, Pixley, Ledbury; *s.* Byford Bashful 45748, *d.* Rushbury Queen *by* Shucknall Right 35614.

801 R. N.—His Majesty The King, The Royal Farms, Windsor, for **Windsor Boxer.**
H. C.—809. C.—804, 808, 810.

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[1] Champion Prize of £10 10*s.* given by the Hereford Herd Book Society for the best Bull.

[2] Perpetual Silver Challenge Trophy given through the Hereford Herd Book Society for the best Bull.

[3] Prizes given by the Hereford Herd Book Society.

Class 99.—*Hereford Bulls, born on or after March* 1, 1928.

815 I. (£15.)—H. R. GRIFFITHS, Little Tarrington, Hereford, for **Tarrington Optimist** 49586, born April 2; *s.* Tarrington Major 46540, *d.* Oakleaf 5th *by* Prince Charming 29982.

821 II. (£10.)—J. PRYCE & SONS, Penmaes, Talgarth, for **Rose Hopeful** 49755, born March 24, bred by C. English, Evesbatch Court, Worcester; *s.* Pivot of Pitsford 45259, *d.* Rose Opal *by* Resolute 35537.

813 III. (£5.)—W. H. DONNE DAVIES, The Pigeon House, Weston Beggard, Herefordshire, for **Jolly Roger**, born March 6, bred by T. E. Childe, Aston Ayres, Bridgnorth; *s.* Haughton Kaffir 43785, *d.* Bertha 3rd (Vol. 50, p. 878) *by* Sheriff 28707.

817 IV. (£4.)—JAMES MEDLICOTT, Bodenham Court, Hereford, for **Bodenham Capstan** 48943, born April 21; *s.* Bodenham Barrister 45668, *d.* Garland *by* Primate 39833.

820 R. N.—PHILIP G. PHILLIPS, Preston Court, Ledbury, for **Preston Vic.**

H. C.—816.

Class 100.—*Hereford Cows or Heifers, in milk.*

[No Entry.]

Class 101.—*Hereford Heifers, born on or between September* 1, 1926, *and August* 31, 1927.

826 I. (£15, & Champion.[1])—JOHN WALKER, Knightwick Manor, Worcester, for **Knightwick Chloe** (Vol. 58, p. 531), born Jan. 3, 1927; *s.* Defence 38981, *d.* Knightwick Chocolate *by* Eaton Hotspur 36631.

824 II. (£10.)—W. H. BROWN CAVE, Wall End, Monkland, Leominster, for **Gloria** (Vol. 58, p. 182), born Jan. 29, 1927; *s.* Crossways Violetous 42178, *d.* Bonnie *by* Doctor 31419.

825 III. (£5.)—E. CRAIG TANNER, Eyton-on-Severn, Wroxeter, Shrewsbury, for **Eyton Dowager 21st** (Vol. 58, p. 508), born Dec. 3, 1926; *s.* Orlando of Pitsford 42697, *d.* Eyton Dowager 7th *by* Wormington Commodore 41834.

823 R. N.—HIS MAJESTY THE KING, The Royal Farms, Windsor, for **Poppy.**

Class 102.—*Hereford Heifers, born on or between September* 1 *and November* 30, 1927.[2]

829 I. (£15.)—SIR DAVID R. LLEWELLYN, BART., The Court, St. Fagans, for **St. Fagans Emmalute**, born Sept. 15; *s.* St. Fagans Paxolute 48655, *d.* Crossways Emerald 3rd (Vol. 54, p. 651) *by* Bounteous 36107.

830 II. (£10.)—JAMES MEDLICOTT, Bodenham Court, Hereford, for **Ladylike 2nd**, born Oct. 21; *s.* Bodenham Barrister 45668, *d.* Ladywood (Vol. 56, p. 423) *by* Bounds Joyful 36101.

831 III. (£5.)—J. L. M. SINNETT, Charlton Hill, Wroxeter, Shrewsbury, for **Charlton Welcome 2nd** (Vol. 59, p. 516), born Nov. 1; *s.* Courageous 36465, *d.* Crossways Welcome *by* Double Crown 36582.

828 R. N.—PERCY E. BRADSTOCK, Free Town, Tarrington, Herefordshire, for **Free Town Godetia 2nd.**

Class 103.—*Hereford Heifers, born on or after December* 1, 1927.

836 I. (£15, & R. N. for Champion.[1])—HENRY JAMES DENT, Perton Court, Stoke Edith, Hereford, for **Lively 51st**, born Dec. 18, 1927; *s.* Percentage 37655, *d.* Lively 45th (Vol. 56, p. 243) *by* Sunclad 28762.

841 II. (£10.)—JAMES MEDLICOTT, Bodenham Court, Hereford, for **Beauty**, born Dec. 1, 1927; *s.* Bodenham Barrister 45668, *d.* Lady Anna 4th (Vol. 57, p. 375) *by* Eaton Dreadnought 36621.

842 III. (£5.)—J. PRYCE & SONS, Penmaes, Talgarth, for **Penmaes Gaylass** (Vol. 59, p. 484), born Dec. 20, 1927; *s.* Twyford Bluestone 41740, *d.* Bridesmaid *by* Spartan 34344.

835 IV. (£4.)—W. H. BROWN CAVE, Wall End, Monkland, Leominster, for **Victoria**, born March 10, 1928; *s.* Crossways Violetous 42178, *d.* Queen (Vol. 55, p. 213) *by* Leen Sundial 39455.

839 R. N.—SIR MAURICE LEVY, BART., Great Glen, Leicester, for **Glen Jessica.**

H. C.—837, 840. C.—843.

Devons.

Class 104.—*Devon Bulls, born in or before* 1927.

845 I. (£15, & Champion.[3])—CECIL BRENT, Clampit, Callington, Cornwall, for **Pound Romper** 12413, born Jan. 28, 1923, bred by Gordon C. Skinner, Pound, Bishop's Lydeard, Somerset; *s.* Pound Larker 10282, *d.* Pound Rosebud 4th 31407 *by* Dairyman 7040.

848 II. (£10.)—ABRAHAM TRIBLE & SONS, Halsdon, Holsworthy, Devon, for **Nerrols Best Man** 12374, born Feb. 16, 1923, bred by R. Bruford, Nerrols, Taunton; *s.* Highfield Advance 9318, *d.* Nerrols Harebell 2nd 31667 *by* Highfield Chieftain 8915.

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[1] Champion Prize of £10 10*s.* given by the Hereford Herd Book Society for the best Cow or Heifer.

[2] Prizes given by the Hereford Herd Book Society.

[3] Champion Prize of £10 10*s.* given by the Devon Cattle Breeders' Society for the best Bull.

849 **III. (£5.)**—Thomas Yeo, Court Barton, Abbots Bickington, Beaworthy, Devon, for **Swank** 13769, born Sept. 7, 1925, bred by H. H. Pearcey, Motcombe, Shaftesbury; *s.* Chiselborough Tip Top 12180, *d.* Charton Sweet Briar 36213 *by* All Right 10832.

Class 105.—*Devon Bulls, born in* 1928.

853 **I. (£15, & R. N. for Champion.[1])**—Major R. C. Coldwell, Spring Grove, Milverton, Somerset, for **Carey Barrister** 14341, born March 17, bred by F. J. Stanbury, Carey Barton, St. Giles in the Heath; *s.* Highfield Cowboy 11514, *d.* Carey Darkie 5th 37471 *by* Cutsey Guardsman 11432.

852 **II. (£10.)**—Cecil Brent, Clampit, Callington, Cornwall, for **Clampit Nonsuch 2nd** 14372, born May 10; *s.* Highfield Gem 8919, *d.* Clampit Nun 2nd 28916 *by* Ford Plumper 7381.

851 **III. (£5.)**—G. C. Alexander, Manor House, Winterbourne Stoke, Salisbury, for **Stoke Stalwart 2nd** 14606, born May 16; *s.* Clampit Flier 12594, *d.* Cothelstone Fate 29142 *by* Commander 7646.

Class 106.—*Devon Cows or Heifers, in-milk, born in or before* 1926.

857 **I. (£15, & Champion.[2])**—Cecil Brent, Clampit, Callington, Cornwall, for **Clampit Gay Lass 27th** 38900, born Jan. 26, 1926, calved April 5, 1929; *s.* Pound Romper 12413, *d.* Clampit Gay Lass 20th 34698 *by* Highfield Gem 8919.

858 **II. (£10.)**—Harry Charles Hancock, The Court, Milverton, Somerset, for **Court Red 3rd** 39308, born April 16, 1926, calved March 2, 1929; *s.* Holcombe Mainstay 11533, *d.* Court Red 34007 *by* Gotton Prince 7th 10093.

Class 107.—*Devon Heifers, born in* 1927.

863 **I. (£15, & R. N. for Champion.[2])**—Cecil Brent, Clampit, Callington, Cornwall, for **Clampit Snowdrop 2nd** 40037, born March 12; *s.* Highfield Gem 8919, *d.* Hendra Snowdrop 4th 35208 *by* Nowers Bakerloo 11145.

862 **II. (£10.)**—H.R.H. The Prince of Wales, K.G., Home Farm, Stoke Climsland, Cornwall, for **Coombeshead Lydia** 39940, born Jan. 25; *s.* Norton Commander 2nd 12391, *d.* Coombeshead Lilac 35571 *by* Clampit Nonsuch 10924.

865 **III. (£5.)**—Clifford Thorne, Rutland Villa, Maindee, Newport, Mon., for **Ladybird 13th** 40421, born Feb. 18, bred by A. J. Hill, Roadwater, Washford, Somerset; *s.* St. Audries' Lordship 13339, *d.* Ladybird 10th 35987 *by* Holcombe Judge 9717.

864 **R. N.**—Harry Charles Hancock, The Court, Milverton, Somerset, for **Court Becky 3rd.**

Class 108.—*Devon Heifers, born in* 1928.

867 **I. (£15.)**—H.R.H. The Prince of Wales, K.G., Home Farm, Stoke Climsland, Cornwall, for **Coombeshead Countess** 40941, born Jan. 4; *s.* Coombeshead Conqueror 13063, *d.* Coombeshead Crocus 31587 *by* Clampit Gay Laddie 9197.

868 **II. (£10.)**—H.R.H. The Prince of Wales, K.G., for **Coombeshead Golden Cup 2nd** 40945, born Jan. 3; *s.* Coombeshead Conqueror 13063, *d.* Coombeshead Buttercup 32500 *by* Clampit Gay Laddie 9197.

870 **III. (£5.)**—R. Gynn & Son, Treslay, Camelford, Cornwall, for **Treslay Piccaninny** 41382, born May 8; *s.* Netherexe Good Sort 13693, *d.* Taunton Flower 36922 *by* Nowers Hangeridge 11606.

872 **R. N.**—Gordon C. Skinner, Pound, Bishop's Lydeard, Somerset, for **Pound Myrtle 98th.**

Sussex.

Class 109.—*Sussex Bulls, born in or before* 1927.

873 **I. (£15, R. N. for Champion,[3] & R. N. for Champion.[4])**—Col. Sir G. L. Courthope, Bart., M.C., M.P., Whiligh, Wadhurst, Sussex, for **Ticehurst King Twin** 6557, born April 1, 1926, bred by William Ford, Singehurst, Ticehurst, Sussex; *s.* Boreham King 2nd 6130, *d.* Oakover Twin 13th 19576 *by* Mabledon Lad 4326.

877 **II. (£10.)**—Lieut.-Col. G. H. Loder, High Beeches, Handcross, Hayward's Heath, for **Dillions Graceful Lad** 6824, born Sept. 28, 1927; *s.* Bolebroke Lad 20th 6423, *d.* Dillions Lovely 6th 20841 *by* Brownings King 6th 4914.

874 **III. (£5.)**—Edward Hurtley, Crowborough Warren, Sussex, for **Crowborough Warren Arab 1st** 6778, born Jan. 16, 1927; *s.* Linton Arab 6115, *d.* Oakover Daisy 25th 22272 *by* Oakover Chevalier 6th 5610.

Class 110.—*Sussex Bulls, born in* 1928.

882 **I. (£15, Champion,[3] & Champion,[4] & Champion.[5])**—Lord Leconfield, Petworth House, Petworth, Sussex, for **Petworth Toreador 22nd** 7024, born Feb. 23; *s.* Lock Toreador 2nd 5924, *d.* Lock Millmaid 6th 18390 *by* Birling Geoffrey 2nd 4252.

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[1] Champion Prize of £10 10*s.* given by the Devon Cattle Breeders' Society for the best Bull.

[2] Champion Prize of £10 10*s.* given by the Devon Cattle Breeders' Society for the best Cow or Heifer.

[3] Champion Silver Medal given by the Sussex Herd Book Society for the best Bull.

[4] Perpetual Silver Challenge Trophy given through the Sussex Herd Book Society for the best Bull.

[5] Perpetual Silver Challenge Cup given by the Sussex Cattle Breeders' Society of South Africa for the best Sussex.

881 **II. (£10.)**—E. and B. Kelsey, Wickham Court, Canterbury, for **Wickham Chevalier** 7011, born Jan. 1; *s.* Oakover Chevalier 6th 5610, *d.* Wickham Court Beauty 45th 18154 *by* Linton 14th 3849.

879 **III. (£5.)**—Edward Hurtley, Crowborough Warren, Sussex, for **Crowborough Warren Napoleon 6th** 6994, born Jan. 15; *s.* Lock Napoleon 2nd 6350, *d.* Oakover Daisy 25th 22272 *by* Oakover Chevalier 6th 5610.

H. C.—880. **C.**—885.

Class 111.—*Sussex Cows or Heifers, in-milk, born in or before* 1926.

890 **I. (£15, Champion,[1] & R. N. for Champion.[2])**—Lieut.-Col. J. R. Warren, O.B.E., M.C., The Hyde, Handcross, Haywards Heath, for **Lock Knelle 2nd** 23244, born March 16, 1926, calved Feb. 4, 1929, bred by E. Ezra, Lock, Partridge Green, Sussex; *s.* Bolebroke Harlequin 3rd 6247, *d.* Marlands Lady Knelle 20113 *by* Jacobite 5116.

887 **II. (£10.)**—Brig.-Gen. G. Holdsworth, C.B., C.M.G., Glynde Place, Glynde, Sussex, for **Drungewick Daisy 16th** 19107, born Feb. 26, 1920, calved June 7, 1929, bred by E. E. Braby, Drungewick Manor, Rudgwick, Sussex; *s.* Drungewick A One 7th 4582, *d.* Drungewick Daisy 14th 16712 *by* Drungewick Marksman 3rd 3274.

888 **III. (£5.)**—E. and B. Kelsey, Wickham Court, Canterbury, for **Wickham Court Beauty 81st** 22777, born Feb. 2, 1925, calved March 25, 1929; *s.* Oakover Chevalier 6th 5610, *d.* Wickham Court Beauty 45th 18154 *by* Linton 14th 3849.

889 **R. N.**—Lieut.-Col. G. H. Loder, High Beeches, Handcross, Haywards Heath, for **Dillions Lovely 6th.**

Class 112.—*Sussex Heifers, born in* 1927.

891 **I. (£15.)**—Brig.-Gen. G. Holdsworth, C.B., C.M.G., Glynde Place, Glynde, Sussex, for **Caburn Beauty 4th** 24039, born Jan. 25; *s.* Bolebroke Lad 6th 6008, *d.* Caburn Gladeye 20747 *by* Wadden Luck 4891.

894 **II. (£10.)**—Lord Leconfield, Petworth House, Petworth, Sussex, for **Petworth Knot 8th** 24122, born March 17; *s.* Lock Toreador 2nd 5924, *d.* Petworth Knot 4th 19491 *by* Newick Nobleman 3rd 4227.

893 **III. (£5.)**—L. O. Johnson, Peppers, Ashurst, Steyning, Sussex, for **Kings Barn Dusky** 24088, born Jan. 24; *s.* Kings Barn Sunbright 6213, *d.* Lock Darkey 13th 15990 *by* Tutsham Beau 3212.

Class 113.—*Sussex Heifers, born in* 1928.

896 **I. (£15, & R. N. for Champion.[1])**—Brig.-Gen. G. Holdsworth, C.B., C.M.G., Glynde Place, Glynde, Sussex, for **Caburn Darkey 5th** 24468, born Jan. 22; *s.* Caburn Diploma 6370, *d.* Caburn Darkey 2nd 22721 *by* Hermitage King 5629.

895 **II. (£10.)**—Col. Sir G. L. Courthope, Bart., M.C., M.P., Whiligh, Wadhurst, Sussex, for **Whiligh Polly 64th** 24467, born Jan. 9; *s.* Coldharbour Heedless Chevalier 6157, *d.* Whiligh Polly 10th 19199 *by* Dillions Rock 2nd 4173.

901 **III. (£5.)**—Lieut.-Col. J. R. Warren, O.B.E., M.C., The Hyde, Handcross, Haywards Heath, Sussex, for **Handcross Stonesdown 2nd** 24926, born Jan. 27; *s.* Lock Duke 2nd 6347, *d.* Brownings Stonesdown 2nd 18043 *by* Brownings Miller 6th 3883.

899 **R. N.**—Lord Leconfield, Petworth House, Petworth, Sussex, for **Petworth Pleasant 8th.**

H. C.—900. **C.**—897.

Welsh.

Class 114.—*Welsh Bulls, born on or before November* 30, 1927.

903 **I. (£15, & Champion.[3])**—Sir J. Crosland Graham, Clwyd Hall, Ruthin, North Wales, for **Pilsdon Baldwin** 2921, born Aug. 13, 1924, bred by S. H. Jenks, Pilsdon Manor, Bridport; *s.* Ty Croes Llewellyn 2376, *d.* Penrhos Branwen 4640 *by* Nipper of Penrhyn 1131.

904 **II. (£10, & R. N. for Champion.[3])**—A. G. Joynson, Grove Hall, Capenhurst, Cheshire, for **Caran Caradoc 2nd** 3310, born Sept. 26, 1926, bred by J. M. Jenkins, Cerrigtrane, Talybont; *s.* Caradoc Glascoed 2436, *d.* Caran Nelli 4198 *by* Glascoed Seren 7729.

905 **III. (£5.)**—Mrs. Williams-Owen, Treveilyr, Bodorgan S.O., Anglesey, for **Treveilyr Coron** 3237, born Dec. 18, 1924; *s.* Penmynydd Iolo 2324, *d.* Corwen Maggie 4356 *by* Bodrida Lion 1209.

902 **R. N.**—Brogyntyn Estate Compan Glyn Home Farm, Talsarnau, Merioneth, for **Wern Emblem.**

Class 115.—*Welsh Bulls, born on or between December* 1, 1927, *and November* 30, 1928.

908 **I. (£15.)**—Lord Penrhyn, Penrhyn Castle, Bangor, for **Penrhyn Garnet**, born March 19, 1928; *s.* Timothy of Penrhyn 3235, *d.* Gwen 12th of Penrhyn 6168 *by* Gamecock of Penrhyn 1650.

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[1] Champion Silver Medal given by the Sussex Herd Book Society for the best Cow or Heifer.

[2] Perpetual Silver Challenge Cup given by the Sussex Cattle Breeders' Society of South Africa for the best Sussex.

[3] Champion Silver Medal given by the Welsh Black Cattle Society for the best Bull.

907 **II. (£10.)**—A. G. JOYNSON, Grove Hall, Capenhurst, Cheshire, for **Grove Royalist**, born April 4, 1928; *s.* Cim Royalist 2747, *d.* Penllyn Mwynen 5588 *by* Penllyn Jack 1441.
909 **III. (£5.)**—MRS. WILLIAMS-OWEN, Treveilyr, Bodorgan S.O., Anglesey, for **Treveilyr Gai**, born May 27, 1928; *s.* Treveilyr Coron 3237, *d.* Gwladys 3735 *by* Nipper of Penrhyn 1131.
906 **R. N.**—EARL FITZWILLIAM, K.C.V.O., D.S.O., Wentworth, Rotherham, for **Wentworth Snowdon.**

Class 116.—*Welsh Cows or Heifers, in-milk, born on or before November* 30, 1926.

911 **I. (£15, & R. N. for Champion.**[1]**)**—SIR J. CROSLAND GRAHAM, Clwyd Hall, Ruthin, North Wales, for **Cim Doli** 5823, born Feb. 23, 1922, calved June 6, 1929, bred by J. W. Holland, Cim, Abersoch; *s.* Cim Chamberlain 1908, *d.* Cim Mary 4999 *by* Lord Roberts 921.
913 **II. (£10.)**—A. G. JOYNSON, Grove Hall, Capenhurst, Cheshire, for **Llyslew Martha** 7708, born Jan. 3, 1924, calved Dec. 17, 1928, bred by D. R. Lloyd, Llyslew, Anglesey; *s.* Bodrida John 1581, *d.* Waen Martha 2nd 4760 *by* Herald of Penrhyn 1143.
910 **III. (£5.)**—BROGYNTYN ESTATE COMPANY, Glyn Home Farm, Talsarnau, Merioneth, for **Egryn Mair 4th** 8217, born July 9, 1925, calved Oct. 25, 1928, bred by Evan Evans, Egryn Abbey, Dyffryn; *s.* Escuan Cawr 1640, *d.* Egryn Blacen 2nd 4021 *by* Cardi Bach 754.
912 **R. N.**—SIR J. CROSLAND GRAHAM, for **Graemes Lottie.**

Class 117.—*Welsh Cows or Heifers, in-milk, any age, whose milk yield has been officially recorded and checked.*[2]

918 **I. (£15, & Champion.**[3]**)**—EARL FITZWILLIAM, K.C.V.O., D.S.O., Wentworth, Rotherham, for **Helen 4th of Penrhyn** 7824, born May 7, 1922, calved May 24, 1929, bred by Lord Penrhyn, Penrhyn Castle, Bangor; *s.* Gamecock of Penrhyn 1650, *d.* Helen 2nd of Penrhyn 2306 *by* Madryn Cawr 488.
915 **II. (£10.)**—EARL FITZWILLIAM, K.C.V.O., D.S.O., for **Bodlew Beauty** 7921, born April 17, 1924, calved Jan. 20, 1929, bred by G. J. Roberts, Yoke House, Pwllheli, North Wales; *s.* Glynllifon Bob 1968, *d.* Pennarth Mali 3rd 5277.
917 **III. (£5.)**—EARL FITZWILLIAM, K.C.V.O., D.S.O., for **Bryscyni Mwynddu 7th** 4446, born May 13, 1920, calved Nov. 12, 1928, bred by Morris Parry, Bryscyni, Clynnog, Llanwnda; *s.* Bomb of Penrhyn 1136, *d.* Bryscyni Mwynddu 6th 4438.

Class 118.—*Welsh Heifers, born on or between December* 1, 1926, *and November* 30, 1927.

919 **I. (£15, & Champion.**[1]**)**—BROGYNTYN ESTATE COMPANY, Glyn Home Farm, Talsarnau, Merioneth, for **Glyn Redshank** 9660, born Dec. 9, 1926; *s.* Plas Samson 2925, *d.* Glyn Kittiwake 4116 *by* Madryn Joffre 1147.
924 **II. (£10.)**—LORD PENRHYN, Penrhyn Castle, Bangor, for **Ivy 8th of Penrhyn** 9800, born Jan. 14, 1927; *s.* Harold of Penrhyn 1984, *d.* Ivy 3rd of Penrhyn 7013 *by* Gunner of Penrhyn 1141.
922 **III. (£5.)**—A. G. JOYNSON, Grove Hall, Capenhurst, Cheshire, for **Grove Mary 1st** 9756, born Dec. 2, 1926; *s.* Cim Sceptre 2748, *d.* Cim Mary 4999 *by* Lord Roberts 921.
927 **R. N.**—MRS. WILLIAMS-OWEN, Treveilyr, Bodorgan S.O., Anglesey, for **Treveilyr Flame.**
H. C.—921.

Class 119.—*Welsh Heifers, born on or between December* 1, 1927, *and November* 30, 1928.

932 **I. (£15.)**—MRS. WILLIAMS-OWEN, Treveilyr, Bodorgan S.O., Anglesey, for **Treveilyr Gwenhwyfar**, born Feb. 1, 1928; *s.* Treveilyr Coron 3237, *d.* Treveilyr Bronwen 8039 *by* Bodelwa Jester 1574.
929 **II. (£10.)**—SIR J. CROSLAND GRAHAM, Clwyd Hall, Ruthin, North Wales, for **Graemes Annie**, born Dec. 2, 1927; *s.* Pilsdon Baldwin 2921, *d.* Pansy of Nantclwyd 6865 *by* Bodelwa Botha 1267.
931 **III. (£5.)**—MISS B. PRINCE, High Austby, Ilkley, Yorks, for **Austby Brilliant**, born Jan. 16, 1928; *s.* Austby Black Watch 3009, *d.* Austby Begonia 8651 *by* Hall Green Hamlet 2259.
930 **R. N.**—A. G. JOYNSON, Grove Hall, Capenhurst, Cheshire, for **Grove Gwen.**
H. C.—933. **C.**—928.

Longhorns.

Class 120.—*Longhorn Bulls, born in or before* 1928.

936 **I. (£15.)**—R. S. WALTERS, Norfolk Lodge, Sutton Coldfield, Warwickshire, for **Arden Final** 891, red, brindle and white, born April 15, 1925, bred by W. H. Sale, Arden Hill, Atherstone; *s.* Arden Warrior 806, *d.* Arden Fashion *by* Arden Dictator 762.

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[1] Champion Silver Medal given by the Welsh Black Cattle Society for the best Cow or Heifer.

[2] Prizes given through the Welsh Black Cattle Society.

[3] Silver Salver given through the Welsh Black Cattle Society for the First Prize Animal in Class 117.

934 **II. (£10.)**—W. E. Swinnerton, Crickley Barrow House, Northleach, Cheltenham, for **Waddon Duke** (Vol. 15, p. 20), red, brindle and white, born June 5, 1927, bred by F. J. Mayo, Friar Waddon, Weymouth; *s.* Canley Omega 895, *d.* Dewberry *by* Lord Victor of Kent 680.

935 **III. (£5.)**—J. W. Swinnerton-Weston, Over Whitacre, Coleshill, Birmingham, for **Tommy Boy of Lewgars** 931, dark red and white, born July 20, 1927, bred by F. S. Bennett, Lewgars, Kingsbury, Middlesex; *s.* Chippinghurst Chief 861, *d.* Carnation of Chippinghurst *by* Prince Diadem of Kent 778.

Class 121.—*Longhorn Cows or Heifers, in-milk, born in or before* 1926.

939 **I. (£15.)**—J. W. Swinnerton-Weston, Over Whitacre, Coleshill, Birmingham, for **Larkspur of Chippinghurst** (Vol. 13, p. 25), red, brindle and white, born Feb. 4, 1923, calved June 16, 1929, bred by Alfred Wheeler, Chippinghurst Manor, Cuddesdon, Oxon; *s.* Chippinghurst Greatheart 812, *d.* Linnet of Chippinghurst *by* Rousham Romper 788.

940 **II. (£10.)**—J. W. Swinnerton-Weston, for **Lupin of Chippinghurst** (Vol. 13, p. 26), red, brindle and white, born Jan. 18, 1923, calved May 25, 1929, bred by Alfred Wheeler, Chippinghurst Manor, Cuddesdon, Oxon; *s.* Chippinghurst Greatheart 812, *d.* Lupin 2nd *by* Lord Victor of Kent 680.

937 **III. (£5.)**—F. J. Mayo, Friar Waddon, Weymouth, for **Friar Spark** (Vol. 14, p. 12), red and white, born in 1920, calved June 4, 1929; *s.* Chester 810, *d.* Fairy Spark.

941 **R. N.**—R. S. Walters, Norfolk Lodge, Sutton Coldfield, for **Frills 2nd of Rousham.**

Aberdeen-Angus.

Class 122.—*Aberdeen-Angus Bulls, born on or before November* 30, 1926.

944 **I. (£15, Champion,[1] Champion,[2] Champion,[3] R. N. for Champion,[4] & R. N. for Champion.[5])**—J. J. Cridlan, Maisemore Park, Gloucester, for **Prince Evade of Maisemore** 57854, born May 21, 1924; *s.* Evader of Harviestoun 52626, *d.* Pride of Maisemore 19th 64341 *by* Idyll of Maisemore 36219.

950 **II. (£10.)**—Col. C. W. Sofer Whitburn, Amport St. Mary, Andover, for **Proud Baladan of The Burn** 62756, born Jan. 24, 1926, bred by G. H. Russell, The Burn, Edzell; *s.* Everil of Ballindalloch 52678, *d.* Pride of Balgean 74173 *by* Jorum of Ballindalloch 43920.

945 **III. (£5.)**—Col. Raymond W. ffennell, Wytham Abbey Estate, Oxford, for **Witley Prompter** 60555, born Dec. 29, 1924, bred by Sir John Leigh, Bart., Witley, Surrey; *s.* Mulben Peerless 51074, *d.* Witley Princess 2nd 63225 *by* Royal Prince of Bruckley 36931.

948 **R. N.**—Charles Thomas Scott, Buckland Manor, Broadway, Worcs., for **Vandyke of Buckland.**

H. C.—942, 943.

Class 123.—*Aberdeen-Angus Bulls, born on or between December* 1, 1926, *and November* 30, 1927.

957 **I. (£15, R. N. for Champion,[1] R. N. for Champion,[2] & R. N. for Champion.[3])**—Sir Prince Prince-Smith, Bart., Southburn House, Driffield, for **Judas of Southburn** 67880, born Aug. 11, 1927; *s.* Rufus of Buckland 53693, *d.* Judy of Southburn 79781 *by* Jodrel of Achvochkie 48486.

954 **II. (£10.)**—Capt. A. L. Goodson, Kilham, Mindrum, Northumberland, for **Kythe of Dunira** 64963, born Dec. 26, 1926, bred by W. G. MacBeth, Dunira, Perthshire; *s.* Reminder of Ballindalloch 57999, *d.* Kobe 69602 *by* Master Bummer 46346.

951 **III. (£5.)**—Viscount Allendale, Dilston, Corbridge-on-Tyne, for **Elver of Bywell** 64074, born May 21, 1927; *s.* Erebus of Harviestoun 56780, *d.* Elvira of Bywell 75660 *by* Electricity of Bywell 52341.

956 **R. N.**—Leslie K. Osmond, Beelsby Hall, Grimsby, for **Kinetic of Ballindalloch.**

H. C.—952.

Class 124.—*Aberdeen-Angus Bulls, born on or between December* 1, 1927, *and November* 30, 1928.

961 **I. (£15.)**—Norman P. Donaldson, C.B.E., Ballindalloch, Balfron, Stirlingshire, for **Elixir of Derculich** 66966, born Dec. 25, 1927, bred by R. Wemyss Honeyman, Derculich; *s.* Prince of Rush Court 62703, *d.* Elite 2nd of Basildon 76930 *by* Baron Eros of Bleaton 47225.

960 **II. (£10.)**—Viscount Allendale, Dilston, Corbridge-on-Tyne, for **Elurio of Nisbethill** 67008, born Jan. 11, 1928, bred by David P. Elliot, Nisbet Hill, Duns; *s.* Prince Baillie 57842, *d.* Elusive of Nisbethill 69321 *by* Edgar of Harviestoun 43288.

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[1] Perpetual Silver Challenge Trophy given through the Aberdeen-Angus Cattle Society for the best Bull.

[2] Silver Medal given by the English Aberdeen-Angus Cattle Association for the best animal bred in England or Wales.

[3] Champion Gold Medal given by the English Aberdeen-Angus Cattle Association for the best animal of the opposite sex to that of the animal awarded the Champion Gold Medal of the Aberdeen-Angus Cattle Society.

[4] Champion Gold Medal given by the Aberdeen-Angus Cattle Society for the best animal.

[5] Silver Medal given by the Argentine Aberdeen-Angus Association for the best animal bred by Exhibitor.

959 **III. (£5.)**—H.R.H. The Prince of Wales, K.G., Bellever Farm, Princetown, Devon, for **Speyside Pike** 68955, born Jan. 20, 1928, bred by Walter Wilson, Inchgower, Buckie; *s.* Evendale of Kinermony 59279, *d.* Speyside Perfection 68535 *by* Elation of Inchgower 41263.

962 **IV. (£4.)**—David P. Elliot, Nisbet Hill, Duns, for **Euron of Nisbethill** 67337, born Dec. 7, 1927; *s.* Eros of Kinermony 59147, *d.* Eumella of Nisbethill 66944 *by* Edgar of Harviestoun 43288.

967 **R. N.**—Ainslie Watson, Whorlton, Barnard Castle, for **Basileus.**

H. C.—964, 966, 969.

Class 125.—*Aberdeen-Angus Cows or Heifers, in-milk, born on or before November* 30, 1926.

975 **I. (£15, Champion,[1] & Champion.[2])**—Col. Norman Kennedy, D.S.O., Doonholm, Ayr, for **Elmina of Doonholm** 76615, born Jan. 28, 1924, calved Jan. 28, 1929; *s.* Prince Benson of Ballindalloch 51308, *d.* Ellery 58595 *by* Planet of Duthil 35008.

983 **II. (£10.)**—Col. C. W. Sofer Whitburn, Amport St. Mary, Andover, for **Kerella of Llantwit** 77571, born March 27, 1924, calved Dec. 22, 1928, bred by F. Harold Turnbull, Lower House Farm, Llantwit Major, Cardiff; *s.* Proud Padre 51422, *d.* Kindness Pride of Frampton 64083 *by* Moose 34877.

974 **III. (£5.)**—Col. Raymond W. ffennell, Wytham Abbey Estate, Oxford, for **Prude of Witley** 78961, born March 8, 1925, calved Jan. 6, 1929, bred by Sir John Leigh, Bart., Witley, Surrey; *s.* Kodak of Gallovie 48575, *d.* Prudent of Theobalds 65328 *by* Fair Boy of Theobalds 41584.

970 **IV. (£4.)**—Viscount Allendale, Dilston, Corbridge-on-Tyne, for **Pride of Tynevale** 80322, born Feb. 20, 1926, calved Dec. 4, 1928; *s.* Erebus of Harviestoun 56780, *d.* Pride of Place 73360 *by* Placeman of Bywell 48929.

971 **V. (£3.)**—Sir Henry Bell, Bart, Mynthurst, Reigate, for **I Shall** 80434, born Jan. 2, 1926, calved Dec. 9, 1928; *s.* Effendi of Doonholm 54406, *d.* Mynthurst Isolna 3rd 66415 *by* General Petain of Frampton 39714.

973 **R. N.**—Belvoir Estates, Ltd., Estate Office, Belvoir Castle, Grantham, for **Queen Mother of Frampton.**

H. C.—980. **C.**—977, 982.

Class 126.—*Aberdeen-Angus Heifers, born on or between December* 1, 1926, *and November* 30, 1927.

985 **I. (£15.)**—E. R. Debenham, Bladen Farms, Briantspuddle, Dorchester, for **Ermine 3rd of Ruthven** 84448, born Feb. 2, 1927, bred by D. MacRae, Ruthven, Kingussie; *s.* Premier of Candacraig 55561, *d.* Ernie of Ruthven 56737 *by* Earl Echo of Ballindalloch 26706.

991 **II. (£10.)**—Col. C. W. Sofer Whitburn, Amport St. Mary, Andover, for **Idella of Amport** 88901, born Jan. 11, 1927; *s.* Eski of Doonholm 56860, *d.* Princess Ida of Amport 80106 *by* Earl of Surrey 43238.

987 **III. (£5.)**—Col. Norman Kennedy, D.S.O., Doonholm, Ayr, for **Bryony of Doonholm** 84198, born Jan. 23, 1927; *s.* Prince Benson of Ballindalloch 51308, *d.* Biota of Doonholm 56632 *by* Mondello 27193.

988 **R. N.**—Robert Brown Miller, Newberries, Radlett, Herts, for **Jilt of Newberries.**

H. C.—990.

Class 127.—*Aberdeen-Angus Heifers, born on or between December* 1, 1927, *and November* 30, 1928.

994 **I. (£15.)**—Viscount Allendale, Dilston, Corbridge-on-Tyne, for **Elvana of Bywell** 85928, born April 20, 1928; *s.* Erebus of Harviestoun 56780, *d.* Elvira of Bywell 75660 *by* Electricity of Bywell 52341.

1000 **II. (£10.)**—David P. Elliot, Nisbet Hill, Duns, for **Gertrude of Nisbethill** 86694, born Dec. 30, 1927; *s.* Eros of Kinermony 59147, *d.* Gertie 2nd of Nisbethill 80915 *by* Prince of Pedigree 44448.

1005 **III. (£5.)**—F. A. Rottenburg, Lochlane, Crieff, Perthshire, for **Erma 2nd of Balfron** 86553, born Jan. 10, 1928, bred by N. P. Donaldson, Ballindalloch, Balfron; *s.* Black Idol 45093, *d.* Erma of Candacraig 75371 *by* Prince Powerful of Harviestoun 49054.

997 **IV. (£4.)**—Belvoir Estates, Ltd., Estate Office, Belvoir Castle, Grantham, for **Belinda of Amport,** born Jan. 12, 1928, bred by Col. C. W. Sofer Whitburn, Amport St. Mary, Andover; *s.* Eski of Doonholm 56860, *d.* Bertha of Amport 82722 *by* Primate of Amport 57831.

1006 **V. (£3.)**—Ainslie Watson, Whorlton, Barnard Castle, for **Black Magnet** 88811, born Dec. 19, 1927; *s.* Euryalus of Ballindalloch 48123, *d.* Moyness Blackbird 7th 65967 *by* Moyness Blizzard 42045.

1003 **R. N.**—Leslie K. Osmond, Beelsby Hall, Grimsby, for **Pensive of Downieken.**

H. C.—993, 998, 999, 1002, 1008. **C.**—992, 995, 996, 1007.

Cup.[3]—Viscount Allendale.

R. N. for Cup.[3]—Col. C. W. Sofer Whitburn.

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[1] Champion Gold Medal given by the Aberdeen-Angus Cattle Society for the best animal.

[2] Silver Medal given by the Argentine Aberdeen-Angus Association for the best animal bred by Exhibitor.

[3] Silver Challenge Cup given through the English Aberdeen-Angus Cattle Association for the most points awarded in a combination of entries.

Belted Galloways.

Class 128.—*Belted Galloway Bulls, born on or before November* 30, 1927.

1013 I. (£15.)—Gen. Sir Ian Hamilton, 1 Hyde Park Gardens, London, W., for **Allington Concrete** 467B, born Jan. 17, 1924, bred by G. H. Woodman, Balsdean Manor, Rottingdean, Sussex; *s.* Allington Hector 17B, *d.* Allington Primrose 125B.

1015 II. (£10.)—Mrs. M. E. Westoll, Glingerbank, Longtown, Cumberland, for **Glenzier Wallace** 597B, born Feb. 12, 1926, bred by Captain James Westoll, Glingerbank, Longtown; *s.* Mochrum Royal Blend of Craigeach 463B, *d.* Mark Dolly 206B.

1012 III. (£5.)—Lieut.-Comdr. Sir August Cayzer, Bart., R.N., Gartmore House, Gartmore, Stirling, for **Gartmore Robin** 707B, born April 17, 1927; *s.* Mark Hector 56B, *d.* Nan of Auchengassel 27570 *by* Tramp of Auchengassel 13488.

1009 R. N.—Major Ian Bullough, Drury Lane Farm, Redmarley, Newent, for **Shenley Aristocrat.**

H. C.—1011. C.—1014.

Class 129.—*Belted Galloway Bulls, born on or between December* 1, 1927, *and November* 30, 1928.[1]

1020 I. (£15.)—Lieut.-Comdr. Sir August Cayzer, Bart., R.N., Gartmore House, Gartmore, Stirling, for **Gartmore Nigel** 839B, born March 25, 1928; *s.* Mark Hector 56B, *d.* Nan of Auchengassel 27570 *by* Tramp of Auchengassel 13488.

1019 II. (£10.)—The Marquis of Bute, K.T., Craigeach, Kirkcowan, for **Mochrum Majestic of Craigeach** 769B, born Dec. 12, 1927; *s.* Mark Ewart 495B, *d.* Mochrum Minnie 236B *by* Mochrum Royal Record of Craigeach 61B.

1022 III. (£5.)—Robert Chrystal Irving, Shenley Lodge, Ridge Hill, Barnet, for **Shenley Brigand** 875B(D), born May 22, 1928; *s.* Knockbrex Prince Imperial 109B(D), *d.* Shenley Ida 1160B(D).

1021 R. N.—Gen. Sir Ian Hamilton, 1 Hyde Park Gardens, London, W., for **Lullenden Douglas 2nd.**

C.—1018.

Class 130.—*Belted Galloway Cows or Heifers, in-milk, born on or before November* 30, 1926.

1030 I. (£15.)—Robert Chrystal Irving, Shenley Lodge, Ridge Hill, Barnet, for **Knockbrex Diadem** 966B, born May 3, 1926, calved April 5, 1929, bred by J. D. Brown, Corseyard, Kirkcudbright; *s.* Knockbrex Pollux 49B, *d.* Knockbrex Crummie 348B *by* Boreland Prodigal 23B.

1029 II. (£10.)—Robert Chrystal Irving, for **Clauchrie Lady Alice** 137B (D), born in 1920, calved May 14, 1929, bred by James Muir, Clauchrie, Wigtown; *d.* Clauchrie Lady Ann 138B *by* Boreland Champion 21B(D).

1025 III. (£5.)—J. Douglas Brown, Corseyard, Kirkcudbright, for **Knockbrex Donna** 974B(D), born May 2, 1926, calved March 31, 1929; *s.* Knockbrex Pollux 49B, *d.* Knockbrex Daisy 349B(D) *by* Boreland Prodigal 23B.

1026 R. N.—Lieut.-Comdr. Sir August Cayzer, Bart., R.N., Gartmore House, Gartmore, Stirling, for **Gartmore Mary 2nd.**

H. C.—1023. C.—1028.

Class 131.—*Belted Galloway Heifers, born on or between December* 1, 1926, *and November* 30, 1927.[1]

1036 I. (£15, & Champion.[2])—Lieut.-Comdr. Sir August Cayzer, Bart., R.N., Gartmore House, Gartmore, Stirling, for **Gartmore Helen 1st** 1322B, born April 7, 1927; *s.* Mark Hector 56B, *d.* Gartmore Helen *by* Tramp of Auchengassel 13488.

1031 II. (£10.)—J. Douglas Brown, Corseyard, Kirkcudbright, for **Knockbrex Echo** 1280B, born May 17, 1927; *s.* Knockbrex Pollux 49B, *d.* Knockbrex Lady Teasdale 179B.

1032 III. (£5.)—J. Douglas Brown, for **Knockbrex Eve** 1296B, born Feb. 17, 1927; *s.* Mindork Admiral 58B, *d.* Knockbrex Beryl 612B *by* Boreland Prodigal 23B.

1037 IV. (£4.)—Gen. Sir Ian Hamilton, 1 Hyde Park Gardens, London, W., for **Gartmore Lily 2nd** 1326B, born Feb. 11, 1927, bred by Lieut.-Comdr. Sir August Cayzer, Bart., Gartmore House, Gartmore; *s.* Mark Freeman 507B, *d.* Gartmore Lily 1st 586B *by* Mark Hector 56B.

1035 R. N.—The Marquis of Bute, K.T., Craigeach, Kirkcowan, for **Mochrum Galloway Lass of Craigeach.**

H. C.—1040. C.—1039.

Class 132.—*Belted Galloway Heifers, born on or between December* 1, 1927, *and November* 30, 1928.[1]

1046 I. (£15, & R. N. for Champion.[2])—Robert Chrystal Irving, Shenley Lodge, Ridge Hill, Barnet, for **Shenley Black Ivory** 1688B, born Dec. 5, 1927; *s.* Knockbrex Prince Imperial 109B(D), *d.* Shenley Ivory 1176B.

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[1] Prizes given by the Dun and Belted Galloway Cattle Breeders' Association.

[2] The "Knockbrex" Perpetual Silver Challenge Cup given through the Dun and Belted Galloway Cattle Breeders' Association for the best Belted Galloway.

1045 **II. (£10.)**—Robert Chrystal Irving, for **Shenley Barbara** 1682B, born Dec. 25, 1927; *s.* Mindork Lucky Boy 633B, *d.* Knockbrex Bertha 610B *by* Knockbrex Prince Imperial 109B(D).

1042 **III. (£5.)**—J. Douglas Brown, Corseyard, Kirkcudbright, for **Knockbrex Fleur-de-Lys** 1596B(D), born March 5, 1928; *s.* Knockbrex Dragon 601B, *d.* Knockbrex Pansy 183B(D) *by* Boreland Champion 21B(D).

1043 **R. N.**—Major Ian Bullough, Drury Lane Farm, Redmarley, Newent, for **Redmarley Pine.**

H. C.—1041. **C.**—1044.

Galloways.

Class 133.—*Galloway Bulls, born on or before November* 30, 1928.

1047 **I. (£15, & R. N. for Champion.[1])**—Sir John W. Buchanan-Jardine of Castlemilk, Bart., Castle Milk, Lockerbie, for **Warfare of Waterside** 15721, born Feb. 17, 1924, bred by Arthur Young, Garroch House, Dalry, Galloway; *s.* Zooa of Auchengassel 15058, *d.* Tenderfoot of Waterside 28364 *by* Sir Denzil of Craigneston 13831.

1049 **II. (£10.)**—Robert Graham, Chapel of Logan, Canonbie, for **Grange Beau Brocade** 14649, born Dec. 19, 1920, bred by Walter Biggar, Grange Farm, Dalbeattie; *s.* Serbian 13969, *d.* Lizzie 7th of Chapelton 22782 *by* Sweepstakes 1000.

1050 **III. (£5.)**—D. and J. Little, Whitehill, Corrie, Lockerbie, for **Juryman** 16269, born May 21, 1926, bred by J. and J. W. Paterson, Kirtlehead, Waterbeck, Lockerbie; *s.* Barmark Gladiator 15555, *d.* Blackthorn 9th 27224 *by* Oliver of Killearn 12690.

Class 134.—*Galloway Cows or Heifers, in-milk, born on or before November* 30, 1926.

1051 **I. (£15, & Champion.[1])**—Sir John W. Buchanan-Jardine of Castlemilk, Bart. Castle Milk, Lockerbie, for **Ivy of Mossknowe** 28896, born March 6, 1923, calved Jan. 24, 1929, bred by Lewis Beattie, Mossknowe, Canonbie; *s.* Matthew Mark 10726, *d.* Frolic of Mossknowe 26804 *by* Comic 4th of Stepford 13030.

1053 **II. (£10.)**—Robert Graham, Chapel of Logan, Canonbie, for **Logan Lady 16th** 30270, born Jan. 10, 1925, calved June 4, 1929; *s.* Youngster of Auchengassel 14778, *d.* Logan Lady 6th 26460 *by* Owen of Barlae 12498.

1056 **III. (£5.)**—R. Jardine Paterson, Balgray, Lockerbie, for **Joan 6th of Scroggie Hall** 28801, born March 4, 1922, calved March 4, 1928; *s.* Nero of Dalwyne 13023, *d.* Joan of Scroggie Hall 23698 *by* Defiance 8266.

1054 **IV. (£4.)**—R. Jardine Paterson, for **Frisky of Mossknowe** 28377, born March 13, 1922, calved Dec. 20, 1928; *s.* Matthew Mark 10726, *d.* Frolic of Mossknowe 26804 *by* Wanderer of Tundergarth Mains 9466.

Class 135.—*Galloway Heifers, born on or between December* 1, 1926, *and November* 30, 1927.

1060 **I. (£15.)**—R. Jardine Paterson, Balgray, Lockerbie, for **Doris 2nd of Balgray** 31534, born Jan. 12, 1927; *s.* **Tasty Mark 14067**, *d.* Tarbreoch Doris 20th 28454 *by* Sapphire 12268.

1059 **II. (£10.)**—Francis N. M. Gourlay, Kirkland, Tynron, Thornhill, Dumfriesshire, for **Favourite of Kirkland** 31435, born Feb. 21, 1927; *s.* Oscar of Auchenhay 15779, *d.* Fenella 5th of Craigneston 27569 *by* Raleigh of Killearn 11988.

1057 **III. (£5.)**—Sir John W. Buchanan-Jardine of Castlemilk, Bart., Castle Milk, Lockerbie, for **Nerita 3rd of Castlemilk** 31522, born Dec. 26, 1926; *s.* Aviator 2nd of Castlemilk 15612, *d.* Nerita of Castlemilk 25925 *by* Kitchener of Mossknowe 12246.

1061 **R. N.**—R. Jardine Paterson, for **Joan 3rd of Balgray.**

Class 136.—*Galloway Heifers, born on or between December* 1, 1927, *and November* 30, 1928.[2]

1068 **I. (£15.)**—R. Jardine Paterson, Balgray, Lockerbie, for **Gratitude of Balgray** 32246, born Jan. 10, 1928; *s.* Tasty Mark 14067, *d.* Gratitude 6th of Logan 27576 *by* King of Thorniehill 13101.

1062 **II. (£10.)**—Sir John W. Buchanan-Jardine of Castlemilk, Bart., Castle Milk, Lockerbie, for **Lilith 4th of Castlemilk** 32237, born March 14, 1928; *s.* Aviator 2nd of Castlemilk 15612, *d.* Lilith of Castlemilk 28609 *by* Comic 6th of Stepford 14054.

1066 **III. (£5.)**—D. and J. Little, Whitehill, Corrie, Lockerbie, for **Grand Dora 8th of Whitehill** 32338, born March 25, 1928; *s.* Herald of Askerton 15085, *d.* Grand Lady 2nd of Corriehalls 22989 *by* Mascot 10830.

1065 **R. N.**—Robert Graham, Chapel of Logan, Canonbie, for **Young Governess.**

H. C.—1067. **C.**—1064.

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[1] The "Jubilee" Perpetual Silver Challenge Cup given by the Galloway Cattle Society for the best Galloway.

[2] Prizes given by the Galloway Cattle Society.

Park Cattle.

Class 137.—*Park Polled or Horned Bulls, born in or before* 1928.

1070 I. (£15.)—THE DUKE OF BEDFORD, K.G., Woburn Abbey, Woburn, Bletchley, for **Woburn Matthias 11th** 345, born April 10, 1927; *s.* Faygate Matthias 71, *d.* Woburn Buckingham 22nd 912 *by* Woburn Perfection 2nd 89.

1072 II. (£10.)—BRIG.-GEN. K. KINCAID-SMITH, St. Osyth Priory, Clacton-on-Sea, for **St. Osyth Friar**, born June 8, 1927; *s.* St. Osyth Rex 133, *d.* Carron 1018.

1071 III. (£5.)—MAJOR QUINTON E. GURNEY, Bawdeswell Hall, East Dereham, for **Bawdeswell Constable**, born Aug. 7, 1927; *s.* Bawdeswell Black Prince 229, *d.* Bawdeswell Congress 1206 *by* Bawdeswell Leo 163.

Class 138.—*Park Polled or Horned Cows or Heifers, in-milk, born in or before* 1926.

1074 I. (£15.)—THE DUKE OF BEDFORD, K.G., Woburn Abbey, Woburn, Bletchley, for **Poynetts Juno** 688, born Aug. 28, 1922, calved June 29, 1929, bred by A. H. Cocks, Poynetts, Henley-on-Thames; *s.* Faygate Brace 13, *d.* Poynetts Aurora 82 *by* Faygate Brace 13.

1078 II. (£10.)—BRIG.-GEN. K. KINCAID-SMITH, St. Osyth Priory, Clacton-on-Sea, for **St. Osyth Dolly** 1334, born Feb. 5, 1925, calved May 19, 1929; *s.* St. Osyth Rex 133, *d.* Snowberry 532.

1075 III. (£5.)—THE DUKE OF BEDFORD, K.G., for **Woburn Pyaura** 1196, born June 4, 1925, calved June 2, 1929; *s.* Woburn Young Chartley 8th 151, *d.* Poynetts Aurora 82 *by* Faygate Brace 13.

1077 R. N.—MAJOR QUINTON E. GURNEY, Bawdeswell Hall, East Dereham, for **Bawdeswell Congress.**

Dairy Shorthorns.

Class 139.—*Dairy Shorthorn Bulls, born in or before* 1926.

1082 I. (£15, & Champion.[1])—DEBENHAM & TORY, Anderson, Blandford, for **Anderson Royal Bates** 195658, white, born Dec. 28, 1924, bred by Robert N. Tory, Anderson; *s.* Kelmscott Conjuror 3rd 137269, *d.* Damory Kirklevington 5th *by* Prince of Pearls 103408.

1088 II. (£10, & R. N. for Champion.[1])—C. B. WORSEY, Yew Tree Farm, Lapworth, Birmingham, for **Abbotswood Royalist 17th** 212766, roan, born April 15, 1926, bred by M. Fenwick, Abbotswood, Stow-on-the-Wold; *s.* Foxhill Royal Pearl 180901, *d.* Abbotswood Janette 4th *by* Roan Duke 122449.

1087 III. (£5.)—HUGH WOOD & SON, Town Farm, Ivinghoe, Aylesbury, for **Harberwain Peer** 207982, roan, born Jan. 22, 1925, bred by J. Robson, Harberwain, Shap; *s.* Olive's Gift 183620, *d.* 29499 Rosaline *by* Democrat 148385.

1086 IV. (£4.)—F. H. THORNTON, Kingsthorpe Hall, Northampton, for **Kingsthorpe Count Rubio 5th** 216810, white, born May 24, 1926; *s.* Grendon Blanco 190226, *d.* 43400 Kingsthorpe Countess Ruby 4th *by* Kingsthorpe Fairy Duke 164556.

1080 R. N.—HENRY BICKFORD, Standeford, Four Ashes, Wolverhampton, for **Standeford Dollar 77th.**

H. C.—1085.

Class 140.—*Dairy Shorthorn Bulls, born in* 1927.

1106 I. (£15.)—J. A. WILLIAMS, Castle Hill, Pannal Ash, Harrogate, for **Greattew Clarence 2nd** 223438, roan, born May 5, bred by Ralph Tustian, The Leys, Great Tew, Oxford; *s.* Sorbrook Clarence 194218, *d.* 43629 Greattew Hilda *by* Rickerscote Pimpernel 158806.

1102 II. (£10.)—A. H. W. OSBORNE & SONS, Branch Farm, Mells, Frome, for **Bricklington Wanderer** 221335, red and white, born May 14; *s.* Campsfield Squire 2nd 197042, *d.* 32592 Babraham Foremost 4th *by* Lord Lee 2nd 121251.

1095 III. (£5.)—J. ONSLOW FANE, Steventon Manor, Hants, for **Revels Count** 225956, roan, born April 9, bred by W. H. Vigus, Revels Croft, Bengeo, Hertford; *s.* Brickendon Crispin 14th 187679, *d.* Woodhall Countess 4th *by* Liquidator 131959.

1103 IV. (£4.)—W. E. STAMER, Pentreheylin, Dudleston Heath, Ellesmere, for **Oxford White Knight** 225406, white, born Feb. 3; *s.* Colescombe Graceful Lad 154898, *d.* 1213 Oxford Countess *by* Prince of Avon 132822.

1092 V. (£3.)—DEBENHAM & TORY, Anderson, Blandford, for **Anderson Bates 15th** 220511, roan, born May 24, bred by Robert N. Tory, Anderson; *s.* Anderson Champion Bates 186667, *d.* Anderson Red Rose 2nd *by* Kelmscott Conjuror 3rd 137269.

1100 R. N.—J. and J. KAY, Mushroom Farm, Edenfield, Manchester, for **Major.**

H. C.—1090. C.—1089.

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[1] Champion Prize of £10 given by the Dairy Shorthorn Association for the best Bull.

Class 141.—*Dairy Shorthorn Bulls, born on or between January* 1 *and March* 31, 1928.

1116 **I.** (£15, & **Special.**[1])—G. P. GOLDEN, Leire, Lutterworth, for **Lord Leicester 80th**, roan, born Feb. 2; *s.* Lord Leicester 52nd 209271, *d.* 49144 Lady Doreen 12th *by* Lord Leicester 9th 164968.

1112 **II.** (£10.)—CAPT. THE RT. HON. E. A. FITZROY, M.P., Fox Hill, West Haddon, Rugby, for **Foxhill Wild Earl**, white, born Jan. 13; *s.* Foxhill Caryl 171702, *d.* 12841 Foxhill Wild Eyes *by* Afterthought 146582.

1128 **III.** (£5.)—J. and J. THOMPSON, Snotterton Hall, Winston, Gainford S.O., Co. Durham, for **Snotterton Polonius**, dark roan, born Jan. 15; *s.* Leeming Promise 209036, *d.* 43351 Trilby 11th *by* Aske Grandee 160856.

1121 **IV.** (£4.)—SIR EDWARD MANN, BART., Thelveton Hall, Diss, for **Playford Patrician**, red, born Jan. 26, bred by S. R. Sherwood, Playford, Ipswich; *s.* Don Marigold 162813, *d.* 7525 Patricia *by* Lauretta Lad 137481.

1129 **V.** (£3.)—MISSES WRIGHT and CATTELL, Rectory Farm, Walgrave, Northampton, for **Hangrave Grand Duke 2nd**, white, born Jan. 4; *s.* Histon Wild Prince 4th 190618, *d.* 33882 Duchess 6th *by* Loobagh Beau 3rd 143635.

1113 **R. N.**—LORD FORTEVIOT OF DUPPLIN, Dupplin Castle, Perth, for **Dupplin Dairy Boy.**

H. C.—1120. **C.**—1117.

1118, 1200, 1217 (**Cup.**[2])—SIR WILLIAM HICKING, BART., Brackenhurst Hall, Southwell, Notts, for **Brackenhurst Wild Duke**, red, born Jan. 8; *s.* Brackenhurst Wild King 178722, *d.* 75192 Odell Duchess *by* Loobagh Beau 3rd 143635, **Brackenhurst Jean** (see Class 145) and **Overpeover Fragrance** (see Class 146).

Class 142.—*Dairy Shorthorn Bulls, born on or between April* 1 *and June* 30, 1928.[3]

1132 **I.** (£15.)—DEBENHAM & TORY, Anderson, Blandford, for **Anderson Darlington Bates**, roan, born April 8, bred by Robert N. Tory, Anderson; *s.* Anderson Champion Bates 186667, *d.* 66854 Duchess of Darlington 18th *by* Anderson Priceless Bates 160742.

1135 **II.** (£10.)—F. S. FRANCIS, Wilkinthroop Farm, Templecombe, for **Seaplane**, roan, born April 12; *s.* Thurnham Lord Cran 203436, *d.* 14189 Duntish Lee *by* Furbelow King 136617.

1134 **III.** (£5.)—CAPT. THE RT. HON. E. A. FITZROY, M.P., Fox Hill, West Haddon, Rugby, for **Foxhill Pearl Diver**, white, born April 25; *s.* Wild Eyes Dairyman 186265, *d.* 23908 Foxhill Pearl 2nd *by* John Wild Eyes 140616.

1146 **IV.** (£4.)—J. S. TAYLOR, Kirby, Shipston-on-Stour, for **Whatcote Proud Prince**, dark roan, born June 20; *s.* Kenilworth Champion 208663, *d.* 74981 Kelmscott Rose 92nd *by* Kelmscott Imperialist 36th 164408.

1141 **V.** (£3.)—J. W. PICKERING, Mousley House, Hatton, Warwick, for **Haberwain Mac**, roan, born June 9, bred by John Robson, Haberwain, Shap; *s.* Holmescales Florist 208310, *d.* 79005 Haberwain Dinah *by* Olive's Gift 183620.

1142 **R. N.**—OSCAR F. ROWNTREE, Mill Hill, Brandsby, York, for **Cherryhill Combination.**

H. C.—1139. **C.**—1149.

Class 143.—*Dairy Shorthorn Bulls, born on or between July* 1 *and December* 31, 1928.

1156 **I.** (£15.)—SIR MARK COLLET, BART., St. Clere, Kemsing, Sevenoaks, for **Bourneplace Lord Pimpernel 2nd**, dark red, born Aug. 22, bred by H. Calvert, Bourne Place, Hildenborough, Tonbridge; *s.* Entwistle Lord Kirklevington 207135, *d.* 43683 Greattew Swanee *by* Rickerscote Pimpernel 158806.

1171 **II.** (£10.)—J. S. TAYLOR, Kirby, Shipston-on-Stour, for **Whatcote Eclipse 2nd**, light roan, born Aug. 11; *s.* Kenilworth Champion 208663, *d.* 45262 Kempsford Meteor *by* Knowsley Prince 3rd 157023.

1155 **III.** (£5, & **R. N. for Special.**[1])—GERALD CLARKSON, Elms Farm, Leire, Rugby, for **Doreen's Heir**, roan, born July 9; *s.* Lord Leicester 59th 217252, *d.* 61728 Lady Doreen 15th *by* Lord Leicester 20th 182715.

1179 **IV.** (£4.)—CAPT. ARNOLD S. WILLS, Middleton House, Longparish, Hants, for **Portway Ringer**, roan, born Aug. 9; *s.* Thornby Ringer 9th 219663, *d.* 69537 Thornby Rosebud 8th *by* Thornby Dauntless Dairyman 152537.

1168 **V.** (£3.)—ALFRED PALMER, Wokefield Park, Mortimer, Berks, for **Wokefield Treasurer**, roan, born Aug. 14; *s.* Wokefield Cavalier 220242, *d.* 46862 Thurnham Darlington Cran 3rd *by* Thurnham Linksman 2nd 152578.

1153 **R. N.**—HENRY BICKFORD, Standeford, Four Ashes, Wolverhampton, for **Standeford Dollar 94th.**

H. C.—1178. **C.**—1158.

1179, 1196, 1294 (**R. N. for Cup.**[2])—CAPT. ARNOLD S. WILLS, for **Portway Ringer, Evenhill Ruby 2nd** (see Class 144) and **Thornby Ringlet 13th** (see Class 148).

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[1] Special Prize of £10 given by the Dairy Shorthorn Association for the best Bull in Classes 141 and 143. The following cows in the pedigree of the Bull to be registered, or entitled to be registered, as qualified cows in the Dairy Shorthorn Association's Register: (1) The sire's dam and her dam, (2) the dam and her dam, and (3) the dam of the dam's sire.

[2] The "Grendon" Silver Challenge Cup given through the Dairy Shorthorn Association for the best group of one Bull and two Cows or Heifers. Two at least of the animals must have been bred by the Exhibitor.

[3] Prizes, except Fourth and Fifth, given by the Dairy Shorthorn Association.

Class 144.—*Dairy Shorthorn Cows, in-milk, born on or before March* 31, 1923, *having yielded a minimum of* 8,000 *lb. of milk during a lactation period of* 315 *days.*[1]

1196 **I. (£15, & R. N. for Champion.[2])**—Capt. Arnold S. Wills, Thornby Hall, Northampton, for 57332 **Evenhill Ruby 2nd,** roan, born Jan. 3, 1923, calved June 25, 1929, bred by Joseph Wood, Evening Hill, Thursby, Carlisle; *s.* Fillpail Dairyman 155768, *d.* Carleton Ruby 6th *by* Major Lees 132154.

1188 **II. (£10.)**—Major R. F. Fuller, Great Chalfield, Melksham, Wilts, for 36524 **Chalfield Daffodil 7th,** roan, born April 18, 1922, calved May 10, 1929; *s.* Wild Gift 146378, *d.* Chalfield Daffodil 6th *by* Romping Boy 133199.

1184 **III. (£5.)**—Lieut.-Col. E. C. Atkins, Stretton House, Stretton Baskerville, Hinckley, for 39406 **Illington Winsonia 3rd,** red and little white, born April 27, 1922, calved May 18, 1929, bred by E. McGregor, Leamington; *s.* Eaton Ranger 15575, *d.* Comely Windsor 4th *by* Oxford Record 106450.

1197 **IV. (£4.)**—The Marquess of Zetland, G.C.S.I., G.C.I.E., Aske, Richmond, Yorks, for 67901 **Waterloo Lily,** roan, born Jan. 1, 1923, calved June 21, 1929, bred by J. W. Stephenson, Pikestone, Butterknowle; *s.* Pins and Needles 174837, *d.* 12957 Anstey Bona *by* Collynie Golden Knight 135819.

1191 **V. (£3.)**—H. P. Mortimer, Kingsley Windmill, by Warrington, for 36420 **Dupplin Daisy 3rd,** red and little white, born Feb. 28, 1922, calved June 12, 1929, bred by Lord Forteviot, Dupplin Castle, Perth; *s.* Greenleaf's Blend 142742, *d.* Queen of Daisies *by* Foundation Stone 105534.

1187 **R. N.**—J. Onslow Fane, Steventon Manor, Hants, for **Woodhall Countess 10th.**

1196, 1293, 1294 **(R. N. for Cup.[3])**—Capt. Arnold S. Wills, for **Evenhill Ruby 2nd, Blindbrook Ringdove and Thornby Ringlet 13th.**

Class 145.—*Dairy Shorthorn Cows, in-milk, born on or between April* 1, 1923, *and March* 31, 1924, *having yielded a minimum of* 8,000 *lb. of milk during a lactation period of* 315 *days.*

1200 **I. (£15, & Champion.[2])**—Sir William Hicking, Bart., Brackenhurst Hall, Southwell, Notts, for 49994 **Brackenhurst Jean,** white, born June 21, 1923, calved May 10, 1929; *s.* Royal Ringleader 166746, *d.* Grendon Jeanie *by* Lord Nottingham 116317.

1209 **II. (£10.)**—P. R. L. Savill, Welford Grange, Welford, Rugby, for 52713 **Sweet Rosette 11th,** red and little white, born Aug. 16, 1923, calved June 21, 1929, bred by J. Moffat, Spital, Kendal; *s.* Dairy Prince 180025, *d.* 5853 Sweet Rosette 7th *by* Premier Prince 144499.

1205 **III. (£5.)**—Sir Edward Mann, Bart., Thelveton Hall, Diss, for 46286 **Grendon Wild Eyes,** roan, born Nov. 21, 1923, calved May 3, 1929, bred by H. A. Brown, Grendon, Atherstone; *s.* Lord Nottingham 116317, *d.* 1040 Peggy Wild Eyes *by* Yeldersley Prince George 123741.

1203 **IV. (£4.)**—Daniel Jopson, Ormathwaite Hall, Keswick, for 526857 **Barrington Wild Duchess,** roan, born Oct. 26, 1923, calved July 3, 1929, bred by J. Moffat, Spital, Kendal; *s.* Wild Eyes Duke 177382, *d.* Barrington Empress 3rd *by* Royal Prince 127937.

1204 **V. (£3.)**—Daniel Jopson, for 63578 **Winsome Rosette,** roan, born Jan. 30, 1924, calved June 19, 1929; *s.* Barrowford Conjuror 161187, *d.* Sweet Rosette 5th *by* Royal Prince 127937.

1210 **R. N.**—Sir Gilbert A. H. Wills, Bart., Batsford Park, Moreton-in-Marsh, for **Batsford Ringlet 3rd.**

H. C.—1208.

1200, 1215, 1217 **(Cup.[3])**—Sir William Hicking, Bart., for **Brackenhurst Jean, Martley Barrington** (see Class 146) and **Overpeover Fragrance** (see Class 146.)

Class 146.—*Dairy Shorthorn Cows, in-milk, born on or between April* 1, 1924, *and March* 31, 1925, *having yielded a minimum of* 6,500 *lb. of milk during a lactation period of* 315 *days.*

1211 **I. (£15.)**—Lord Henry Bentinck, Underley Hall, Kirkby Lonsdale, for 66999 **Sybil Grey,** roan, born April 10, 1924, calved June 27, 1929, bred by J. Robson, Harberwain, Shap; *s.* Leeming Politician 173389, *d.* 7296 Lucy Grey *by* Recorder 144767.

1213 **II. (£10.)**—William Curtis & Son, Berwick Manor, Rainham, Essex, for 60040 **Rainham Barrington,** red, born Nov. 25, 1924, calved March 27, 1929; *s.* Longhills Price 173570, *d.* Christmas Barrington *by* Duke of Batchworth 3rd 148529.

1217 **III. (£5.)**—Sir William Hicking, Bart., Brackenhurst Hall, Southwell, Notts, for 66066 **Overpeover Fragrance,** roan, born April 20, 1924, calved May 10, 1929, bred by J. G. Peel, Peover Hall, Knutsford; *s.* Humorist 172577, *d.* Loobagh Fragrance *by* Puddington Beau 3rd 132908.

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[1] Prizes, except Fourth and Fifth, given by the Shorthorn Society.

[2] Champion Prize of £10 given by the Shorthorn Society for the best Cow or Heifer. A Silver Medal is given by the Shorthorn Society to the Breeder of the Champion Dairy Shorthorn Cow.

[3] Silver Challenge Cup given through the Dairy Shorthorn Association for the best group of three Cows or Heifers.

1215 **IV. (£4.)**—SIR WILLIAM HICKING, BART., for 80731 **Martley Barrington**, roan, born Feb. 21, 1925, calved June 18, 1929, bred by P. C. Vestey, Easton Park, Wickham Market; *s.* Anderson Conjuror 9th 177752, *d.* 8404 Hastoe Barrington 6th *by* Loobagh Beau 2nd 131987.

1225 **V. (£3.)**—R. SILCOCK & SONS, LTD., Thornton Hall Farm, Thornton-le-Fylde, Lancs, for 75084 **Thrimby Peggy 3rd**, roan, born March 30, 1925, calved June 20, 1929, bred by H. Holme & Sons, Thrimby, Penrith; *s.* Gaiety Duke 171794, *d.* White Socks Nance *by* First Lord 115403.

1223 **R. N.**—P. R. L. SAVILL, Welford Grange, Welford, Rugby, for **Copsale Maid.**

H. C.—1218, 1219. **C.**—1226.

Class 147.—*Dairy Shorthorn Cows, in-milk, born on or after April* 1, 1925, *having yielded a minimum of* 5,500 *lb. of milk during a lactation period of* 315 *days.*

1250 **I. (£15.)**—EUSTACE ABEL SMITH, Longhills, Lincoln, for 79549 **Longhills Priceless Heather**, white, born July 2, 1925, calved June 8, 1929; *s.* Babraham Lord Price 140574, *d.* Heather Queen *by* Dairyman 125081.

1234 **II. (£10.)**—FREDK. CHAPMAN, Chevet Grange, Wakefield, for 70434 **Barugh Hermia**, red, born Aug. 12, 1925, calved June 18, 1929, bred by Joseph Barnes & Son, Barugh Syke, Wigton; *s.* Barbara's Renown 187098, *d.* Barugh Maid *by* Barugh Enterprise 169024.

1236 **III. (£5.)**—G. P. GOLDEN, Leire, Lutterworth, for 73941 **Lady Clovelly 2nd**, red and little white, born June 18, 1925, calved May 3, 1929; *s.* Lord Leicester 20th 182715, *d.* 49141 Lady Clovelly *by* Lord Leicester 9th 164968.

1245 **IV. (£4.)**—MAJOR G. MILLER MUNDY, Red Rice, Andover, for 71192 **Bella Do**, roan, born June 7, 1925, calved April 25, 1929, bred by H. A. Brown, Grendon, Atherstone; *s.* Grendon John Thomas 163777, *d.* Belladonna Beauty *by* Furbelow King 125610.

1238 **V. (£3.)**—G. P. GOLDEN, for 73943 **Lady Doreen 19th**, red and white, born June 6, 1925, calved June 3, 1929; *s.* Lord Leicester 20th 182715, *d.* 13301 Lady Doreen 4th *by* Lord Leicester 150182.

1237 **R. N.**—G. P. GOLDEN, for **Lady Doreen 17th.**

H. C.—1235, 1246, 1249.

1236, 1237, 1238 **(Cup.[1])**—G. P. GOLDEN, for **Lady Clovelly 2nd, Lady Doreen 17th** and **Lady Doreen 19th.**

1249, 1285, 1286 **(R. N. for Cup.[1])**—EUSTACE ABEL SMITH, for **Longhills Barrington Empress 2nd, Longhills Daisy Belle 3rd** and **Longhills Folly 3rd.**

Class 148.—*Dairy Shorthorn Heifers, in-milk, to first calving, born on or after April* 1, 1926.[2]

1294 **I. (£15.)**—CAPT. ARNOLD S. WILLS, Thornby Hall, Northampton, for 103829 **Thornby Ringlet 13th**, white, born Jan. 25, 1927, calved June 10, 1929; *s.* Thornby Royalist Foggathorpe 203398, *d.* Thornby Ringlet 3rd *by* Drusus 115142.

1286 **II. (£10.)**—EUSTACE ABEL SMITH, Longhills, Lincoln, for 91090 **Longhills Folly 3rd**, roan, born Aug. 9, 1926, calved April 4, 1929; *s.* Sorbrook Summertime 194227, *d.* 67526 Longhills Folly 2nd *by* Babraham Lord Price 140574.

1293 **III. (£5.)**—CAPT. ARNOLD S. WILLS, Middleton House, Longparish, Hants, for 91878 **Blindbrook Ringdove**, roan, born Aug. 22, 1926, calved June 22, 1929, bred by A. W. Thursby, Duns Tew, Deddington; *s.* Bushlea Red King 196913, *d.* Thornby Ringdove *by* Thornby Ringer 123247.

1278 **IV. (£4.)**—MAJOR G. MILLER MUNDY, Red Rice, Andover, for 89172 **Redrice Carlina**, roan, born Sept. 14, 1926, calved June 2, 1929; *s.* Grendon White Hope 163784, *d.* 10742 Grendon Lady Carl *by* Lord Nottingham 116317.

1259 **V. (£3.)**—DEBENHAM & TORY, Anderson, Blandford, for 85652 **Cowfold Silk Thread**, red, born Sept. 14, 1926, calved May 16, 1929, bred by Col. C. B. Godman, Woldringfold, Horsham; *s.* Cotlands Waterloo Duke 8th 162483, *d.* Cowfold Silkworm *by* Cotlands Barrington Duke 2nd 162462.

1298 **R. N.**—THE MARQUESS OF ZETLAND, G.C.S.I., G.C.I.E., Aske, Richmond, Yorks, for **Aske Rosette 19th.**

H. C.—1268.

Lincolnshire Red Shorthorns.

Class 149.—*Lincolnshire Red Shorthorn Bulls, born in or before* 1926.

1299 **I. (£15, & Champion.[3])**—ALLEN & ORR, LTD., Owlcotes Farm, Heath, Chesterfield, for **Anwick Brutus 2nd** 20964, born Jan. 4, 1925, bred by C. Bembridge, Walcott, Lincoln; *s.* Scampton Vici 16896, *d.* Navenby Anwick 3rd *by* Scampton Sandow 13838.

1300 **II. (£10, & R. N. for Champion.[3])**—BUTLER SMITH, The Fields, Cropwell Butler, Nottingham, for **Cropwell Baronet** 22068, born July 4, 1926; *s.* Harlaxton Balancer 17603, *d.* Bingham Violet *by* Anderby Clipper 13138.

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[1] Perpetual Silver Challenge Cup given through the Dairy Shorthorn Association for the best group of three Cows or Heifers, by the same sire. A small replica of the Cup will be given to the owner of the winning sire, and £1 to the owner of each animal in the winning group. The sire must be living in the British Isles, and have produced living progeny in 1929.

[2] Prizes, except Fourth and Fifth, given by the Dairy Shorthorn Association.

[3] Champion Silver Cup given by the Lincolnshire Red Shorthorn Association for the best Bull.

Class 150.—*Lincolnshire Red Shorthorn Bulls, born in* 1927.

1302 **I. (£15.)**—BUTLER SMITH, The Fields, Cropwell Butler, Nottingham, for **Cropwell Major** 22848, born April 30, 1927; *s.* Cropwell Prince 20229, *d.* Cropwell Lady *by* Flawborough Marquis 15444.

Class 151.—*Lincolnshire Red Shorthorn Bulls, born in* 1928.

1305 **I. (£15.)**—EDWARD JAMES TURTON, Horkstow, Barton-on-Humber, for **Horkstownian Bouncer**, born Aug. 4; *s.* Gorse Anderby 2nd 19433, *d.* Horkstownian Patricia (Vol. 27, p. 722) *by* Welbourn Victorious 12145.

1303 **II. (£10.)**—WILLIAM GRANT, Skinnand Manor, Navenby, Lincoln, for **Grimsby Grange Minister** 23745, born April 6, bred by J. E. Harrison, Grimsby Grange, Lincs; *s.* Kirmington Normanby 17717, *d.* Croxton Fairy 9th *by* Harlaxton Accurate 16496.

1304 **III. (£5.)**—BRIG.-GEN. C. HOARE, C.M.G., C.B.E., Limber Hill, Habrough, Lincs, for **Utterby Yarn 6th** 24200, born April 4, bred by T. Mountain & Son, The Grange, Utterby, Louth; *s.* Anderby Yarn 20951, *d.* Utterby No. 58 *by* Anderby Tishy 17230.

Class 152.—*Lincolnshire Red Shorthorn Cows or Heifers, in-milk, born in or before* 1926.[1]

1306 **I. (£15.)**—HIS MAJESTY THE KING, Sandringham, Norfolk, for **Harrington Angela** (Vol. 27, p. 564), born Jan. 30, 1920, calved June 10, 1929, bred by Major T. Jessop, Harrington Hall, Spilsby; *s.* Stixwold Prince 12936, *d.* Ranby Lily *by* Ranby Hallington 8474.

1309 **II. (£10.)**—JOHN EVENS & SON, Burton, Lincoln, for **Burton Jewess 5th** (Vol. 30, p. 355), born Oct. 17, 1923, calved June 12, 1929; *s.* Petwood Giant 17872, *d.* Burton Jewess *by* Priory Knight 11858.

1307 **III. (£5.)**—B. G. BOWSER, Scothern Manor, Lincoln, for **Scothern Jessie 6th** (Vol. 30, p. 294), born May 1, 1923, calved May 19, 1929; *s.* Welbourn Surprise 15018, *d.* Scothern Jessie 2nd *by* Scampton Scothern 14840.

Class 153.—*Lincolnshire Red Shorthorn Cows, in-milk, born in or before* 1924, *showing the best milking properties.*

1313 **I. (£15.)**—JOHN EVENS & SON, Burton, Lincoln, for **Burton Amy 10th** (Vol. 27, p. 476). born Feb. 21, 1919, calved May 7, 1929; *s.* Bendish Burton 5th 13207, *d.* Burton Amy 7th *by* Curlieu Nonsuch 10630.

1316 **II. (£10.)**—RUSSELL WOOD, Bendish House, Welwyn, Herts, for **Bendish Pansy 8th** (Vol. 29, p. 273), born Oct. 18, 1922, calved May 26, 1929, bred by Stanley Blundell, Green Gore, Sussex; *s.* Burton Ruby King 2nd 143114, *d.* Bendish Pansy 5th *by* Sudbrooke Seaman 12976.

1314 **III. (£5.)**—JOHN EVENS & SON, for **Burton Fillpail 7th** (Vol. 29, p. 344), born June 26, 1922, calved June 5, 1929; *s.* Wolferton Lad 15058, *d.* Burton Fillpail 3rd *by* Hermit (C.H.B. 102494).

1311 **R. N.**—B. G. BOWSER, Scothern Manor, Lincoln, for **Scothern Betty 5th.**

H. C.—1317.

Class 154.—*Lincolnshire Red Shorthorn Cows or Heifers, in-milk, born in or after* 1925, *showing the best milking properties.*[1]

1318 **I. (£15, & Champion.[2])**—JOHN EVENS & SON, Burton, Lincoln, for **Burton Amy 14th** (Vol. 34, p. 269), born June 22, 1926, calved May 21, 1929; *s.* Burton Diligence 2nd 19201, *d.* Burton Amy 10th *by* Bendish Burton 5th 13207.

1319 **II. (£10, & R. N. for Champion.[2])**—JOHN EVENS & SON, for **Burton Fillpail 8th** (Vol. 33, p. 300), born June 18, 1925, calved May 19, 1929; *s.* Burton Diligence 2nd 19201, *d.* Burton Fillpail 6th *by* Burton Jordan 11897.

1322 **III. (£5.)**—RUSSELL WOOD, Bendish House, Welwyn, Herts, for **Bendish Charm 8th** (Vol. 32, p. 499), born June 29, 1925, calved June 8, 1929; *s.* Burton Ruby King 2nd 14314, *d.* Bendish Charm 4th *by* Sudbrooke Seaman 12976.

1320 **R. N.**—JOHN EVENS & SON, for **Burton Young Cherry 15th.**

Class 155.—*Lincolnshire Red Shorthorn Heifers, born in* 1927.

1324 **I. (£15, & Champion.[3])**—BUTLER SMITH, The Fields, Cropwell Butler, Nottingham, for **Cropwell Violet 2nd** (Vol. 33, p. 408), born Feb. 7; *s.* Cropwell Prince 20229, *d.* Cropwell Violet *by* Harlaxton Balancer 17603.

1323 **II. (£10.)**—HIS MAJESTY THE KING, Sandringham, Norfolk, for **Wolferton Treasure 5th** (Vol. 34, p. 197), born July 6; *s.* Wolferton Majestic 19057, *d.* Wolferton Treasure *by* Wolferton Prince 15059.

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[1] Prizes given by the Lincolnshire Red Shorthorn Association.

[2] Champion Silver Cup given by the Lincolnshire Red Shorthorn Association for the best Female of the Dairy type.

[3] Champion Silver Cup given by the Lincolnshire Red Shorthorn Association for the best Female other than Dairy type.

1325 **III. (£5.)**—Edward James Turton, Horkstow, Barton-on-Humber, for **Horkstownian Wondrous** (Vol. 34, p. 384), born Feb. 20; *s.* Gorse Anderby 2nd 19433, *d.* Horkstownian Record *by* Horkstownian Query 15524.

Class 156.—*Lincolnshire Red Shorthorn Heifers, born in* 1928.

1328 **I. (£15, & R. N. for Champion.**[1]**)**—William Grant, Skinnand Manor, Navenby, Lincoln, for **Grimbarian**, born Jan. 31, bred by J. E. Harrison, Grimsby Grange, Lincs; *s.* Anwick Consul 7th 21876, *d.* Grimsby Grange Owmby 3rd (Vol. 32, p. 369) *by* Kirmington Normanby 17717.

1326 **II. (£10.)**—His Majesty the King, Sandringham, Norfolk, for **Wolferton Tea Rose 8th**, born April 1; *s.* Hundleby Gunner 22253, *d.* Wolferton Tea Rose (Vol. 28, p. 264) *by* Bonby Hallington 7th 13245.

1329 **III. (£5.)**—William Grant, for **Tishy**, born Feb. 28, bred by T. Mountain & Son, The Grange, Utterby, Louth; *s.* Anderby Tishy 17230, *d.* Utterby No. 29 (Vol. 27, p. 619) *by* Bonby Hallington 11th 14258.

H. C.—1330.

South Devons.

Class 157.—*South Devon Bulls, born in or before* 1927.

1332 **I. (£15.)**—Lord Mildmay of Flete, Ermington, Devon, for **Court Perfection** 10632, born April 30, 1923, bred by Walter Trant, Diptford Court, South Brent; *s.* Myrtle Grove 2nd 8653, *d.* Myrtle 2nd 22323 *by* Worswell Perfection 6330.

1334 **II. (£10.)**—R. G. Rogers, Wonton, South Brent, Devon, for **Flete King 9th** 11779, born Nov. 7, 1926, bred by Lord Mildmay of Flete Ermington, Devon; *s.* Gerston King 10700, *d.* Flete Lovely 28891 *by* Trehele Forester 9500.

1331 **III. (£5.)**—W. L. Hosking & Sons, Fentongollan, Probus, Cornwall, for **Fentongollan Orangeman** 11771, born Jan. 22, 1926; *s.* Tregye Orangeman 11279, *d.* Fentongollan Butterfly 26993 *by* Fentongollan Apollo 8466.

Class 158.—*South Devon Bulls, born in* 1928.

1338 **I. (£15.)**—John Wakeham, Rowden, Newton Ferrers, Devon, for **Rowden Cadet 10th** 12332, born Aug. 6; *s.* Cadet 11366, *d.* Rowden Lovely 5th 31903 *by* Painsford Eustace 9923.

1337 **II. (£10.)**—Lord Mildmay of Flete, Ermington, Devon, for **Inglebourne No. 20** 12225, born Jan 26, bred by T. W. Luscombe, Great Inglebourne, Totnes; *s.* Cholwells Bachelor 11380, *d.* Alice 30248 *by* Dittisham Hero 9109.

1336 **III. (£5.)**—Sydney S. Horton, Lixton, Loddiswell, Devon, for **Lixton Forester 4th** 12276, born April 17; *s.* Trehele Forester 9500, *d.* Sunflower 4th 28657 *by* New Year's Gift 9344.

1335 **R. N.**—Major H. R. Fox, M.C., S. Battisborough, Holbeton, Devon, for **Admiral.**

Class 159.—*South Devon Cows or Heifers, in-milk, born in or before* 1926.

1340 **I. (£15.)**—Lord Mildmay of Flete, Ermington, Devon, for **Flete Crocus** 32627, born Jan. 5, 1926, calved Jan. 1, 1929; *s.* Gerston King 10700, *d.* Flete Countess 3rd 28889 *by* Trehele Forester 9500.

1342 **II. (£10.)**—John Wakeham, Rowden, Newton Ferrers Devon, for **Pearl 3rd** 22415, born Oct. 12, 1919, calved June 8, 1929; *s.* Rowden Boy 6751, *d.* Pearl 19108 *by* Napoleon 6th 6061.

1339 **III. (£5.)**—Walter Hunt, Diptford Downs, Diptford, South Brent, Devon, for **Empress** 27250, born June 20, 1922, calved April 25, 1929, bred by T. Maye, Croft, Charlton, Kingsbridge, Devon; *s.* Lixton Councillor 11th 9268, *d.* Ernestine 4th 17056 *by* Old Fashion 4130.

1341 **R. N.**—Lord Mildmay of Flete, for **Kamley.**

Class 160.—*South Devon Heifers, born in* 1927 *or* 1928.

1346 **I. (£15.)**—Lord Mildmay of Flete, Ermington, Devon, for **Flete Princess 2nd** 33452, born Jan. 4, 1927; *s.* Gerston King 10700, *d.* Flete Princess 30308 *by* Trehele Forester 9500.

1345 **II. (£10.)**—Lord Mildmay of Flete, for **Flete Pansy** 34130, born March 24, 1928; *s.* Leigham Favourite 8585, *d.* Flete Pink 23515 *by* Random 7315.

1344 **III. (£5.)**—Major H. R. Fox, M.C., S. Battisborough, Holbeton, Devon, for **Rosemary** 33189, born May 6, 1927; *s.* Victor 10951, *d.* Rose 4th 29917 *by* Battisborough Perfection 9633.

Red Polls.

Class 161.—*Red Poll Bulls, born in or before* 1926.

1350 **I. (£15, & Champion.**[2]**)**—E. and B. Moore, Home Farm, Somerleyton, Suffolk, for **Gaddesby Gauntlet** 12620, born Aug. 11, 1921, bred by Capt. J. O. Sherrard, Gaddesby, Leicester; *s.* Sudbourne Loyalist 11814, *d.* 27168 Necton Gilliflower *by* Shrewsbury 10489.

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[1] Champion Silver Cup given by the Lincolnshire Red Shorthorn Association, for the best Female other than Dairy type.

[2] Champion Prize of £5 given by the Red Poll Cattle Society for the best Bull.

1351 **II. (£10, & R. N. for Champion.[1])**—Henry Taylor, Lower Tundridge, Suckley, Worcester, for **Byley Hero** 14060, born Jan. 29, 1924, bred by Col. H. M. Stephenson, Byley, Cheshire; *s.* Combs Heroic 11912, *d.* 26395 Model Fanny *by* Sutton Demoniac 10934.
1347 **III. (£5.)**—S. W. Copley, Deacons Hill, Elstree, Herts, for **Longford Veracious** 13850, born Sept. 8, 1924, bred by Viscount Folkestone, Longford Estate Office, Alderbury, Salisbury; *s.* Sudbourne Choice Goods 12455, *d.* 23814 Vera 9th *by* Acton Rameses 9882.
1348 **R. N.**—Major J. G. Dugdale, D.S.O., The Abbey, Cirencester, for **Whiteway Whiz.**

Class 162.—*Red Poll Bulls, born in* 1927.

1357 **I. (£15.)**—N. A. Heywood, Glevering Park, Wickham Market, Woodbridge, for **Glevering Peacock** 14510, born May 6; *s.* Easton Pilgrim Father 12597, *d.* 28206 Sizewell Julia *by* Udal 11086.
1360 **II. (£10.)**—Owen H. Smith, Langham, Oakham, for **Ranksborough Herdsman** 14654, born May 7; *s.* Meddler Herdsman 13140, *d.* 30182 Lowther Flighty *by* Plumstead Poilu 11435.
1353 **III. (£5.)**—Lord Cranworth, Grundisburgh, Suffolk, for **Grundisburgh Captain Kettle** 14519, born Jan. 29; *s.* Grundisburgh Viscount 13401, *d.* 29560 Assington Voyager *by* Ashmoor Pilot 11527.
1362 **IV. (£4.)**—Gerald E. F. Tenison, Overbury Hall, Layham, Suffolk, for **Overbury Cyclops** 14645, born April 26; *s.* Bredfield Prince 2nd 13315, *d.* 28977 Kirtling Actress *by* Plumstead Pericles 11429.
1352 **R. N.**—Sir Merrik R. Burrell, Bart., C.B.E., Knepp Castle Estate Office, Horsham, for **Knepp Prudent Minister.**
H. C.—1358, 1359.

Class 163.—*Red Poll Bulls, born in* 1928.

1364 **I. (£15.)**—J. P. Arkwright, Hatton House, Warwick, for **Hatton President**, born Feb. 12; *s.* Hatton Fabric 13775, *d.* 31165 Hatton Potentcy *by* Gressenhall Renown 11347.
1368 **II. (£10.)**—Mrs. R. M. Foot, White Hill, Berkhamsted, for **White Hill John Peel**, born Jan. 23; *s.* Meddler Full Cry 13138, *d.* 33536 Basildon Rosemary 2nd *by* Hanningfield Conductor 12646.
1365 **III. (£5.)**—Lieut.-Col. R. C. Batt, C.B.E., M.V.O., Gresham Hall, Norwich, for **Gresham Rustic Lad**, born Jan. 26; *s.* Basildon Royal 11882, *d.* 25671 Helmingham Rustic Gal *by* Helmingham Rupert 10576.
1367 **IV. (£4.)**—Major J. G. Dugdale, D.S.O., The Abbey, Cirencester, for **Whiteway Warden**, born Jan. 25; *s.* Whiteway Whiz 14374, *d.* 30528 Thornham Queen *by* Abbey Recluse 11509.
1369 **R. N.**—John George Gray, Roschill, Coventry, for **Abbeycombe Daredad.**

Class 164.—*Red Poll Cows, in-milk, born in or before* 1923.

1382 **I. (£15, & Champion.[2])**—Sir Herbert Hambling, Bart., Rookery Park, Yoxford, Suffolk, for 30347 **Royal Mavis**, born Jan. 26, 1921, calved June 23, 1929, bred by His Majesty the King, Sandringham; *s.* Royal Sunshine 11452, *d.* 25[illegible]45 Lady Merle *by* Honingham Alcestor 10424.
1388 **II. (£10, & R. N. for Champion.[2])**—Lord Wavertree, Horsley Hall, Gresford, North Wales, for 30252 **Necton Enid 2nd**, born Sept. 30, 1921, calved March 10, 1929, bred by R. Harvey Mason, Necton Hall, Swaffham, Norfolk; *s.* Sudbourne Crœsus 10927, *d.* 23005 Ena *by* Aviator 9995.
1383 **III. (£5.)**—N. A. Heywood, Glevering Park, Wickham Market, Woodbridge, for 30603 **Abbey Sunshine 2nd**, born March 26, 1922, calved May 19, 1929, bred by F. E. Holland, Leiston Old Abbey, Leiston, Suffolk; *s.* Knepp Pioneer 11401, *d.* 26959 Henham Sunshine *by* Redgrave Royal 10350.
1380 **IV. (£4.)**—Viscount Folkestone, Longford Estate Office, Alderbury, Salisbury, for 32828 **Longford Symphony**, born April 21, 1923, calved May 13, 1929; *s.* Sudbourne Choice Goods 12455, *d.* 28000 Longford Melody *by* Longford Reflection 11028.
1374 **V. (£3.)**—Sir Merrik R. Burrell, Bart., C.B.E., Knepp Castle Estate Office, Horsham, for 32749 **Knepp Lilac 6th**, born June 12, 1923, calved May 12, 1929; *s.* Gressenhall Marquis 11342, *d.* 24682 Knepp Lilac *by* Battle Axe 10142.
1379 **R. N.**—Mrs. M. M. FitzGerald, Marsden Manor, Cirencester, for **Antwick Rosalind.**
H. C.—1381, 1387. **C.**—1377.

Class 165.—*Red Poll Cows or Heifers, in-milk, born in* 1924, 1925 *or* 1926.[3]

1404 **I. (£15.)**—J. Lawrence Pilling, Beslow, Wroxeter, Shrewsbury, for 34544 **North Rode Flora**, born Jan. 2, 1924, calved May 26, 1929, bred by the late G. Norris Midwood, North Rode, Congleton, Cheshire; *s.* Shotford Star Duke 6th 12439, *d.* 26021 Ashmoor Float *by* Davyson 265th 9230.
1400 **II. (£10.)**—Sir Herbert Hambling, Bart., Rookery Park, Yoxford, Suffolk, for 34114 **Henham Charlotte**, born Feb. 11, 1924, calved March 16, 1929, bred by the Earl of Stradbroke, Henham Hall, Suffolk; *s.* Saham Shrewd Boy 11455, *d.* 28860 Henham Camelia *by* Henham Dairyman 11879.

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[1] Champion Prize of £5 given by the Red Poll Cattle Society for the best Bull.
[2] Champion Prize of £5 given by the Red Poll Cattle Society for the best Cow or Heifer.
[3] Prizes, except Fourth and Fifth, given by the Red Poll Cattle Society.

1391 III. (£5.)—S. W. Copley, Deacons Hill, Elstree, Herts, for 33623 **Bradfield Isabel,** born Sept. 26, 1924, calved June 9, 1929, bred by A. G. Morley, Bradfield St. George, Bury St. Edmunds; *s.* Grange Friar 12300, *d.* 28439 Arwarton Isabel *by* Ashmoor Ray 11528.

1394 IV. (£4.)—Viscount Folkestone, Longford Estate Office, Alderbury, Salisbury, for 34354 **Longford Columbine 2nd,** born Aug. 6, 1924, calved March 20, 1929; *s.* Sudbourne Choice Goods 12455, *d.* 29043 Longford Harlequinade *by* Longford Mixture 11407.

1393 V. (£3.)—Major J. G. Dugdale, D.S.O., The Abbey, Cirencester, for 36813 **Whiteway Win,** born May 19, 1925, calved June 5, 1929; *s.* Necton Golconda 12757, *d.* 28388 Ufford Jane *by* Sudbourne Alliance 11218.

1392 R. N.—Lord Cranworth, Grundisburgh, Suffolk, for **Grundisburgh Wanderer.**

H. C.—1389, 1395. C.—1396, 1399.

Class 166.—*Red Poll Heifers, born in* 1927.

1405 I. (£15.)—His Majesty the King, Sandringham, Norfolk, for 40226 **Royal Daffodil,** born May 19; *s* Royal Crimson 11763, *d.* 32960 Necton Daffodil *by* Marham Armistice 11410.

1408 II. (£10.)—Sir Herbert Hambling, Bart., Rookery Park, Yoxford, Suffolk, for 40663 **Yoxford Blend,** born March 29; *s.* Knepp Grenadier 13467, *d.* 27962 Knepp Beryl *by* Harefield Bestman 10999.

1413 III. (£5.)—Lord Wavertree, Horsley Hall, Gresford, North Wales, for 39575 **Horsley Brenda,** born March 10; *s.* Framlingham Fanatic 12612, *d.* 26532 Sudbourne Belge *by* Hermit's Ruby 10873.

1409 IV. (£4.)—N. A. Heywood, Glevering Park, Wickham Market, Woodbridge, for 39386 **Glevering Raven,** born July 5; *s.* Easton Pilgrim Father 12597, *d.* 28985 Kirton Dora *by* Shotford 11200.

1412 R. N.—Stuart Paul, Kirton Lodge, Ipswich, for **Kirton Doll.**

H. C.—1410.

Class 167.—*Red Poll Heifers, born in* 1928.

1435 I. (£15.)—Owen H. Smith, Langham, Oakham, for **Ranksborough Nellie,** born Jan. 1; *s.* Meddler Herdsman 13140, *d.* 31195 Hepworth Nellie 15th *by* Shotford Waxwork 11784.

1426 II. (£10.)—Sir Herbert Hambling, Bart., Rookery Park, Yoxford, Suffolk, for **Yoxford Primrose 1st,** born Jan. 9; *s.* Knepp Grenadier 13467, *d.* 27233 Sharnden Primrose *by* Kimberley 10881.

1427 III. (£5.)—Felix W. Leach, Meddler Stud, Kennett, Newmarket, for **Meddler Betty,** born Jan. 28; *s.* Bredfield Romulus 3rd 13677, *d.* 34454 Meddler Harebell *by* Basildon Roadman 11559.

1434 IV. (£4.)—Owen H. Smith, for **Ranksborough Ilex 2nd,** born Jan. 1; *s.* Meddler Herdsman 13140, *d.* 32869 Manor Ilex *by* Henham Dairyman 11379.

1416 V. (£3.)—J. P. Arkwright, Hatton House, Warwick, for **Hatton Genial,** born Feb. 2; *s.* Hatton Fabric 13775, *d.* 29976 Hatton Gemma *by* Gressenhall Renown 11347.

1414 R. N.—His Majesty the King, Sandringham, Norfolk, for **Royal Enid.**

H. C.—1415, 1417, 1419, 1421. C.—1423, 1432.

Blue Albions.

Class 168.—*Blue Albion Bulls, born in or before* 1926.

1437 I. (£15, & R. N. for Champion.[1])—Arnold Gillett, Ridgewood, Chorley, Lancs, for **Stow Manners** 1579, born Sept. 12, 1926, bred by T. H. Calderbank, The Hall, Stow Maries, Chelmsford; *s.* Hazeleigh Prince 611, *d.* Bulphan Julia 3164.

1438 II. (£10.)—Henry Matthews, Down Farm, Winterbourne, Bristol, for **Broomhill Threshold** 499, born March 31, 1923, bred by Major Gerald Johnson, D.S.O., Foston, Derbyshire; *s.* Mountain King 81, *d.* Broomhill Amber 1072.

1439 III. (£5.)—B. W. Smith, Pledgdon Hall, Henham, Bishop's Stortford, for **Elsenham Champion** 1517, born Feb. 27, 1926; *s.* Bearstone Topper 209, *d.* Elsenham Myrtle 4144.

Class 169.—*Blue Albion Bulls, born in* 1927.[2]

1443 I. (£15, & Champion.[1])—T. H. Swire & Sons, The Mount and Bellaport Farms, Norton-in-Hales, Market Drayton, for **Mount Fearless** 1731, born April 16; *s.* Fernlee Fearless 303, *d.* Mount Pollie 5154.

1444 II. (£10.)—Randolph Tory, Charisworth Manor, Blandford, for **Cowleaze Champion** 1661, born Feb. 25, bred by E. G. Tory, Charisworth, Blandford; *s.* Charisworth Blue Boy 933, *d.* Cliftonthorpe Lady 2nd 8524.

1441 III. (£5.)—Percy Dobson, Manor Farm, Ridgwardine, Market Drayton, for **Ridgwardine Champion** 1773, born June 8; *s.* Elton Monarch 301, *d.* Ridgwardine Tulip 8884 *by* Mountain Wildman 85.

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[1] Perpetual Silver Challenge Cup given by the Blue Albion Cattle Society for the best Bull.

[2] Prizes given by the Blue Albion Cattle Society.

Class 170.—*Blue Albion Bulls, born in* 1928.[1]

1447 **I. (£15.)**—T. H. Swire & Sons, The Mount and Bellaport Farms, Norton-in-Hales, Market Drayton, for **Mount Goalkeeper 2nd** 1733, born June 22; *s.* Mount Goalkeeper 1040, *d.* Mount Kitty 5112.

1445 **II. (£10.)**—W. E. Glover, The Shrubberies, Snarestone, Burton-on-Trent, for **Snarestone Jester** 1799, born May 29; *s.* Barton Jude 2nd 1183, *d.* Snarestone Faith 7024.

1446 **III. (£5.)**—A. T. Greenslade, Little Walden Park, Saffron Walden, for **Walden Pirate** 1815, born Oct. 9; *s.* Chilcote Blue Boy 1505, *d.* Walden Queen 2nd 10724 *by* Walden Destiny 705.

1448 **R. N.**—Randolph Tory, Chariswortb Manor, Blandford, for **Chariswortb Ruby.**

Class 171.—*Blue Albion Cows or Heifers, in-milk, born in or before* 1926.

1455 **I. (£15, & Champion.[2])**—Henry Matthews, Down Farm, Winterbourne, Bristol, for **Flossie of Winterbourne** 366 S.R., born in 1925, calved June 27, 1929, breeder unknown.

1449 **II. (£10.)**—Arnold Gillett, Ridgewood, Chorley, Lancs, for **Ringwood of Ridgewood,** born Sept. 23, 1923, calved June 17, 1929.

1457 **III. (£5.)**—T. H. Swire & Sons, The Mount and Bellaport Farms, Norton-in-Hales, Market Drayton, for **Park Rose** 5966, breeder and age unknown, calved June 4, 1929.

1454 **IV. (£4.)**—R. H. A. Holbech, The Grange, Farnborough, Banbury, for **Seagry Melody** 6870, breeder and age unknown, calved June 1, 1929.

1456 **R N.**—B. W. Smith, Pledgdon Hall, Henham, Bishop's Stortford, for **Elsenham Patricia.**
H. C.—1453.

Class 172.—*Blue Albion Heifers, born in* 1927.

1460. **I. (£15, & R. N. for Champion.[2])**—R. H. A. Holbech, The Grange, Farnborough, Banbury, for **Farnborough Viola** 11998, born May 31; *s.* Pike Major 1329, *d.* Willenhall Pansy 8028.

1461 **II. (£10.)**—R. H. A. Holbech, for **Stow Joan** 12446, born Aug. 21, bred by T. H. Calderbank, The Hall, Stow Maries, Chelmsford; *s.* Broomhill Threshold 499, *d.* Bulphan Pride 9274 *by* Stanton Premium 175.

1463 **III. (£5.)**—T. H. Swire & Sons, The Mount and Bellaport Farms, Norton-in-Hales, Market Drayton, for **Mount Ethel** 12128, born Feb. 22; *s.* Mount Champion 1045, *d.* Blackmore Ethel 2154.

1462 **R. N.**—B. W. Smith, Pledgdon Hall, Henham, Bishop's Stortford, for **Elsenham Ena.**
H. C.—1464. **C.**—1459, 1465.

Class 173.—*Blue Albion Heifers, born in* 1928.[1]

1467 **I. (£15.)**—Percy Dobson, Manor Farm, Ridgwardine, Market Drayton, for **Ridgwardine Dora 2nd** 12268, born Jan. 22; *s.* Ridgwardine Victor 1093, *d.* Ridgwardine Dora 6404.

1469 **II. (£10.)**—A. T. Greenslade, Little Walden Park, Saffron Walden, for **Walden Dairymaid 3rd** 12462, born May 24; *s.* Chilcote Blue Boy 1505, *d.* Walden Dairymaid 2nd 10720 *by* Destiny 47.

1468 **III. (£5.)**—W. E. Glover, The Shrubberies, Snarestone, Burton-on-Trent, for **Barton Doris** 11644, born March 9, bred by Lieut.-Col. W. E. Harrison, O.B.E., Wychnor Park, Burton-on-Trent; *s.* Ridgwardine Ringleader 1565, *d.* Whitewood Doris 10740 *by* Holly Boy Blue 319.

1471 **R. N.**—John William Towler, Wadlands Hall, Farsley, Leeds, for **Wadlands Maisie.**

British Friesians.

The letters F.R.S. after the number of an animal indicate that such animal is registered in the Friesch Rundvee Stamboek (Friesland Cattle Herd Book) Zwartebonte (Black and White) Section.

The letters F.H.B., S.A., after the number of an animal indicate that such animal is registered in the Friesland Herd Book, South Africa.

The letters S.A.S.B. after the name of an animal indicate that such animal is registered in the South African Stud Book.

The letters P.I. after the name of an animal indicate that such animal is of pure imported Friesian (Holland) or South African blood.

Unless otherwise stated the number refers to the British Friesian Herd Book.

Class 174.—*British Friesian Bulls, born in or before* 1926.

1480 **I. (£15, & R. N. for Champion.[3])**—W. and R. Wallace, Swangleys Farm, Knebworth, Herts, for **Penshurst Froukje's Ceres** 29599, born Feb. 26, 1925, bred by Alfred G. Nye, The Priory, Hildenborough, Kent; *s.* Hache Cerjan Ulysses 14165 P.I., *d.* Hache Ceres Uphrose 45522 *by* Hedges Second Series 6427 P.I.

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[1] Prizes given by the Blue Albion Cattle Society.

[2] Perpetual Silver Challenge Cup given by the Blue Albion Cattle Society for the best Cow or Heifer.

[3] Champion Prize of £10 given by the British Friesian Cattle Society for the best Bull.

1473 II. (£10.)—Ethelbert Furness, Hamels Park, Buntingford, for **Glyndebourne Achilles** 31043 P.I., born Oct. 7, 1926, bred by Capt. John Christie, M.C., Glyndebourne, Ringmer; *s.* Hache Achilles 22919 P.I., *d.* Glyndebourne (imp. 1922) Karrika 61788 *by* Rikus 6542 F.R.S.

1475 III. (£5.)—Sir James Hill, Bart., Hexton Manor, Hitchin, for **Moordale Prince of Holland** 29373 P.I., born Oct. 26, 1925, bred by the late Edward Hollingworth, C.B.E., Moordale, Dobcross, Yorks; *s.* Hache Cerjan Ulysses 14165 P.I., *d.* Hache Teelt 39264 P.I. *by* Tredegar (imp.) Prince of Holland 4579.

1479 IV. (£4.)—Walter B. Robinson, Elmcroft, Scawby, Brigg, for **Brigg Ari's Beatty** 30527, born June 17, 1926; *s.* Lund (imp. 1922) Rensche's Beatty 20863, *d.* Felhampton Ariadne 33340 *by* Marsh (imp.) Generaal 4157.

1474 R. N.—Clifford W. H. Glossop, The Lund Dairies, Bramwith, Doncaster, for **Lund Blanches Beatty.**

H. C.—1478. **C.**—1472.

Class 175.—*British Friesian Bulls, born on or between January* 1 *and June* 30, 1927.

1481 I. (£15, & Champion.[1])—F. W. Gilbert, The Manor, Chellaston, Derby, for **Hardinghall Silver King** 32861, born May 5, bred by Major B. M. Edwards, M.C., Hardingham Hall, Norwich; *s.* Northdean Hollander 4th 26675 P.I., *d.* Hardinghall Dairymaid 72014 *by* Clockhouse Rinlod 7513 P.I.

1487 II. (£10.)—Hubert M. Martineau, The Lodge, Holyport, Berks, for **Holyport Johcesar Series** 32935 P.I., born Jan. 4; *s.* Hedges Second Series 6427 P.I., *d.* Seaton Johanna 30858 P.I. *by* Dunninald (imp.) Cesar 2nd 3812.

1482 III. (£5.)—Lord Glentanar, Glen Tanar, Aboyne, Aberdeenshire, for **Glentanar Barlander** 32765 P.I., born June 2; *s.* Dell Hollander 7655 P.I., *d.* Northdean Barbara 74624 P.I. *by* Northdean (imp. 1922) Marthus Beatty 21081.

1488 R. N.—G. B. Radcliffe, Pool Bank, Tarvin, Cheshire, for **Tarvin Janke's Mairschaap.**

1482, 1597, 1598 R. N. for Trophy.[2]—Lord Glentanar, for **Glentanar Barlander, Glentanar Marionette** and **Glentanar Wanda.**

Class 176.—*British Friesian Bulls, born on or between July* 1 *and December* 31, 1927.

1493 I. (£15.)—Mrs. Graham Rees-Mogg, The Manor House, Clifford Chambers, Stratford-on-Avon, for **Washway Premier** 33615, born Aug. 24, bred by W. Proctor Smith, Moorlands, Broad Road, Sale; *s.* Hache Bacchus 25841 P.I., *d.* Buglawton Bonnie Annie 79556 *by* Northdean (imp. 1922) Marthus Beatty 21081.

1491 II. (£10.)—W. H. R. Gilbert, The Cottage, Aston Flamville, Hinckley, for **Astonville Duke** 32199, born Sept. 19; *s.* Tarvin Janke's Mazeppa 24357 P.I., *d.* Hedges Peggy 53480 *by* Petygards (imp.) Bles Albert 4321.

1490 III. (£5.)—A. Norman Dugdale, Dutton Manor, Longridge, Preston, for **Dutton Master Tom** 32681 P.I., born Oct. 24; *s.* Thurston Rinlod 27219 P.I., *d.* Thurston Karel Jeltje 87980 P.I. *by* Kirkhill (imp.) Karel 2nd 4051.

1492 R. N.—Arthur James Hill, Denton Park, Ben Rhydding, Yorks, for **Bartonlecley Trevor.**

Class 177.—*British Friesian Bulls, born on or between January* 1 *and June* 30, 1928.[3]

1503 I. (£15, & R. N. for Champion.[4])—Duncan Alexander MacLennan, Balmachree, Inverness, for **Balmachree Hugo** 33769, born June 1; *s.* Lochlands Rijper 29237 P.I., *d.* Balmachree Amelia 50400 *by* Seaton David 12683.

1512 II. (£10.)—J. R. Upson, Rush Court, Wallingford, for **Saracens Buringo** 34933, born April 5; *s.* Hache Burinze 25873 P.I., *d.* Northdean Princess May 2nd 85528 *by* Northdean (imp. 1922) Marthus Beatty 21081.

1496 III. (£5.)—Lord Glentanar, Glen Tanar, Aboyne, Aberdeenshire, for **Glentanar Lothair** 34275, born March 29; *s.* Commieston Betsecond Series 22371 P.I., *d.* Lothian Gentle 2nd 84588 *by* Lothian Foch 14735.

1502 IV. (£4.)—Herbert Higham Llewellyn, Inglemere, Arnside, Carnforth, for **Nairn Glory** 34719, born Jan. 7, bred by James Adam, Park, Nairn; *s.* Douneside Ideal 25509, *d.* Findlay Adema Celine 3rd 38918 *by* Findlay (imp.) Adema 50th 3853.

1497 V. (£3.)—Mrs. E. Harbord, Kirk Deighton Hall, Wetherby, for **Nunmonkton Haig** 34737, born June 5; *s.* Douneside Beatty 28357, *d.* Hedon Camouflage 62432 *by* Dunninald (imp.) Cesar 2nd 3813.

1509 R. N.—C. C. Scholefield, Willow Farm, Tadcaster, for **Merryweather Victor.**

H. C.—1504, 1506. **C.**—1499, 1500.

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[1] Champion Prize of £10 given by the British Friesian Cattle Society for the best Bull.

[2] Perpetual Bronze Challenge Trophy given by the Friesland Cattle Breeders' Association of South Africa for the best group of three British Friesian animals bred by Exhibitor.

[3] Prizes, except Fourth and Fifth, given by the British Friesian Cattle Society.

[4] The "Wobaston" Silver Challenge Cup, given through the British Friesian Cattle Society for the best Bull, bred by Exhibitor.

Class 178.—*British Friesian Bulls, born on or between July* 1 *and December* 31, 1928.[1]

1523 **I. (£15, & Champion.[2])**—Trustees of Sir Alasdair W. MacRobert, Bart., Douneside, Tarland, Aberdeenshire, for **Douneside Marcellus** 34163, born Oct. 2; *s.* Douneside Pel Klaas 30901 P.I., *d.* Douneside Maris 92536 *by* Douneside Hatsumerschaap 13719 P.I.

1524 **II. (£10.)**—Hubert H. Martineau, The Lodge, Holyport, Berks, for **Holyport Kuperus** 34433 P.I., born Aug. 26; *s.* Hedges Second Series 6427 P.I., *d.* Holyport Margyb 106118 P.I. *by* Wychnor Gysbrecht 21825 P.I.

1521 **III. (£5.)**—James Kilpatrick, Craigie Mains, Kilmarnock, for **Craigiemains Ambassador** 34043 P.I., born Oct. 28; *s.* Moordale Ambassador 31555 P.I., *d.* Craigiemains Beauty 103226 P.I. *by* Dunallan (imp. 1922) Chepstow 19853.

1522 **IV. (£4.)**—Trustees of Sir Alasdair W. MacRobert, Bart., for **Douneside Hollander 4th** 34157 P.I., born Sept. 3; *s.* Douneside Pel Klaas 30901 P.I., *d.* Douneside Hatsumer 2nd 81178 P.I. *by* Cradlehall (imp.) Hollander 2nd 3737.

1526 **V. (£3.)**—Piddington Estates, Ltd., Horton, Northampton, for **Piddington King Arthur** 34821, born Oct. 24; *s.* Hache Excalibur 32823 P.I., *d.* Hache Cosmetic 93888 *by* Hache Cerjan Ulysses 14165 P.I.

1520 **R. N.**—W. H. R. Gilbert, The Cottage, Aston Flamville, Hinckley, for **Astonville Dairy Boy.**

H. C.—1515.

Class 179.—*British Friesian Cows, in-milk, born in or before* 1923.

1536 **I. (£15, & R. N. for Champion.[3])**—Miss E. Martin Smith, Grange Court, Portington, Eastrington, Hull, for **Felhampton Ellen** 61324, born Aug. 23, 1922, calved June 22, 1929, bred by J. and B. M. Dale, Felhampton Court, Church Stretton; *s.* Bulkeley Klaske's Second Ceres 11187 P.I., *d.* Felhampton Letitia 28598 *by* Marsh (imp.) Generaal 4157.

1540 **II. (£10.)**—J. R. Upson, Rush Court, Wallingford, for **Thurston Karel Emerald 2nd** 76972, born Jan. 20, 1923, calved June 20, 1929, bred by G. T. Eaton, Thurston Hall, Framfield; *s.* Kirkhill (imp.) Karel 2nd 4051, *d.* Thurston Emerald 49372 *by* Coldhayes King Ferdinand 6059.

1532 **III. (£5.)**—F. W. Gilbert, The Manor, Chellaston, Derby, for **Hache Amethyst** 71738, born Jan. 25, 1923, calved June 22, 1929, bred by the Hache Herd, Muntham Court, Findon; *s.* Clockhouse King Akrin 11321 P.I., *d.* Hache Undine 45534 *by* Clockhouse King Akkebot 9327 P.I.

1530 **IV. (£4.)**—Capt. John Christie, M.C., Glyndebourne, Ringmer, Lewes, for **Homestall Disley** 72492, born May 20, 1923, calved June 9, 1929, bred by Lord Dewar, Homestall, East Grinstead; *s.* Saltcote Johan 12649, *d.* Sparrowycke Gouda 41976 *by* Blackmore Premier 5881.

1531 **V. (£3.)**—A. Norman Dugdale, Dutton Manor, Longridge, Preston, for **Thurston Karel Virginia 2nd** 66888, born Sept. 13, 1922, calved May 16, 1929, bred by G. T. Eaton, Thurston Hall, Framfield; *s.* Kirkhill (imp.) Karel 2nd 4051, *d.* Pitsea Dangle 26128 *by* Pitsea Bridegroom 3083.

1529 **R. N.**—Major C. F. Case, Cockthorpe, Wells, Norfolk, for **Blickling Mist.**

H. C.—1528.

1540, 1560, 1575 **Cup.[4]**—J. R. Upson, for **Thurston Karel Emerald 2nd, Charndon Nancy and Saracens Princess May.**

Class 180.—*British Friesian Cows, in-milk, born in* 1924 *or* 1925.[1]

1545 **I. (£15.)**—William Curtis & Son, Berwick Manor, Rainham, Essex, for **Ranfurly Mattie** 86626, born Feb. 1, 1924, calved May 2, 1929, bred by James McPherson, Shillingworth, Bridge of Weir; *s.* Dunninald Lizard 16747, *d.* Ranfurly Martha 48372 *by* Moordale Ceres 6721.

1546 **II. (£10.)**—F. W. Gilbert, The Manor, Chellaston, Derby, for **Hache Belle** 82388, born April 8, 1924, calved June 21, 1929, bred by Hache Herd, Muntham Court, Findon; *s.* Hache Cerjan Ulysses 14165 P.I., *d.* Hache Vespers 53102 *by* Clockhouse King Akrin 11321 P.I.

Class 181.—*British Friesian Heifers, in-milk, born in* 1926.[1]

1560 **I. (£15, & Champion.[3])**—J. R. Upson, Rush Court, Wallingford, for **Charndon Nancy** 102624, born Feb. 26, calved March 28, 1929, bred by C. A. Smith, Hill Farm, Charndon, Bicester; *s.* Crawford (imp. 1922) Beatty 6th 19689, *d.* Chaddesley Nancy 43958 *by* Chaddesley Jonathan 9287.

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[1] Prizes, except Fourth and Fifth, given by the British Friesian Cattle Society.

[2] The "Wobaston" Silver Challenge Cup given through the British Friesian Cattle Society for the best Bull, bred by Exhibitor.

[3] Champion Prize of £10, given by the British Friesian Cattle Society for the best Cow or Heifer.

[4] Silver Challenge Cup given through the British Friesian Cattle Society for the best group of three Cows or Heifers.

1557 **II.** (**£10.**)—Lord Rayleigh, Terling Place, Chelmsford, for **Terling Eclipse 15th** 110672, born Jan. 20, calved June 7, 1929; *s.* Terling Africander 24375 P.I., *d.* Terling Eclipse 7th 57302 *by* Dunninald Haeayemairschaap 7699 P.I.

1558 **III.** (**£5.**)—Mrs. Graham Rees-Mogg, The Manor House, Clifford Chambers, Stratford-on-Avon, for **Northdean Barbara 2nd** 108462 P.I., born April 8, calved March 21, 1929, bred by the late G. Holt Thomas, Northdean House, Hughenden; *s.* Northdean Meibloem's Beatty 26679 P.I., *d.* Northdean Barbara 74624 P.I. *by* Northdean (imp. 1922) Marthus Beatty 21081.

1556 **IV.** (**£4.**)—Hubert M. Martineau, The Lodge, Holyport, Berks, for **Huntinghorn Elite** 106234, born Jan. 31, calved March 1, 1929, bred by Lieut.-Col. C. W. Edwards and Capt. D. W. Evetts, Woolston Manor, North Cadbury; *s.* Huntinghorn Eager 17423, *d.* Terling Torch 19th 42364 *by* Terling Dutchman 5643 P.I.

1562 **R. N.**—W. and R. Wallace, Swangleys Farm, Knebworth, Herts, for **Codbury Poppy.**

H. C.—1559.

Class 182.—*British Friesian Heifers, born on or between January* 1 *and June* 30, 1927.

1573 **I.** (**£15.**)—James Kilpatrick, Craigie Mains, Kilmarnock, for **Craigiemains Beauty 2nd** 114608, born April 19; *s.* Castlestuart Arthur 22271, *d.* Craigiemains Belle 2nd 69936 P.I. *by* Glyndebourne (imp. 1922) Rikus 20111.

1572 **II.** (**£10.**)—John Horridge, Plas Llanfair, Llanfair P.G., Anglesey, for **Llanfair Neeltje 2nd** 118566 P.I., born Jan. 24; *s.* Llanfair Paul 20755 P.I., *d.* Bladen (imp.) Beeltje 3rd 16942 *by* Ceres 4497 F.R.S.

1575 **III.** (**£5.**)—J. R. Upson, Rush Court, Wallingford, for **Saracens Princess May** 120964, born Feb. 10; *s.* Northdean Meibloem's Beatty 26679 P.I., *d.* Northdean Princess May 2nd 85528 *by* Northdean (imp. 1922) Marthus Beatty 21081.

1566 **IV.** (**£4.**)—Ethelbert Furness, Hamels Park, Buntingford, for **Hamels Japonica** 116886, born March 25; *s.* Hamels Paulus Potter 22989 P.I., *d.* Hamels Mary Rose 62148 *by* Dunninald Gaatsomairschaap 6175 PI.

1574 **V.** (**£3.**)—The Trustees of Sir Alasdair W. MacRobert, Bart., Douneside, Tarland, Aberdeenshire, for **Douneside Maris 2nd** 115332, born Jan. 3; *s.* Hache Apollo 22925 P.I., *d.* Lochlands Maris 47020 *by* Lochlands Carron 8257.

1568 **R. N.**—W. H. R. Gilbert, The Cottage, Aston Flamville, Hinckley, for **Astonville Beatrice.**

H. C.—1563, 1567.

1566, 1567, 1608 **Trophy.**[1]—Ethelbert Furness, for **Hamels Japonica** (see above), **Hamels Junket** 116908, born May 20; *s.* Hamels Paulus Potter 22989 P.I., *d.* Iken Dairymaid 4th 83346 *by* Iken (imp. 1922) Pel Beatty 23201; and **Hamels Keg o' Milk** (see Class 185).

Class 183.—*British Friesian Heifers, born on or between July* 1 *and December* 31, 1927.

1579 **I.** (**£15.**)—Lord Glentanar, Glen Tanar, Aboyne, Aberdeenshire, for **Drumrye Butterfly** 115434, born Aug. 29, bred by William Veitch, Drumrye, Drumchapel; *s.* Douneside Pel Pilot 2nd 28371, *d.* Overton Beatrice 85848 *by* Loirston Baronet 17797.

1589 **II.** (**£10.**)—W. and R. Wallace, Swangleys Farm, Knebworth, Herts, for **Moordale Carnation** 119232, born Sept. 14, bred by the late Edward Hollingworth, C.B.E., Moordale Dobcross; *s.* Hache Buringa 25871 P.I., *d.* Reddown Crocus 3rd 56420 *by* Wychnor Yme 8971 P.I.

1576 **III.** (**£5.**)—Major B. M. Edwards, M.C., Hardingham Hall, Norwich, for **Hardinghall Dairymaid 4th** 116960, born Aug. 9; *s.* Northdean Hollander 4th 26675 P.I., *d.* Teston Silver Lead 49332 *by* Terling (imp.) Verwachting 4543.

1586 **IV.** (**£4.**)—Bertram Parkinson, Creskeld Hall, Arthington, Yorks, for **Creskeld Buringa's Gloria** 114726, born July 4; *s.* Hache Buringa 25871 P.I., *d.* Beccles Gloria 23400 *by* Beccles (imp.) Lodewijk 3501.

1583 **V.** (**£3.**)—The Trustees of Sir Alasdair W. MacRobert, Bart., Douneside, Tarland, Aberdeenshire, for **Douneside Madge 2nd** 115328, born Oct. 2; *s.* Lochlands Hollander 29235 P.I., *d.* Douneside Mousme 3rd 81192 *by* Douneside Hatsumerschaap 13719 P.I.

1588 **R. N.**—C. C. Scholefield, Willow Farm, Tadcaster, for **Moordale Fairmaid.**

H. C.—1578.

1579, 1597, 1598 **R. N. for Cup.**[2]—Lord Glentanar, for **Drumrye Butterfly, Glentanar Marionette** and **Glentanar Wanda.**

Class 184.—*British Friesian Heifers, born on or between January* 1 *and June* 30, 1928.[3]

1597 **I.** (**£15.**)—Lord Glentanar, Glen Tanar, Aboyne, Aberdeenshire, for **Glentanar Marionette** 127232, born April 21; *s.* Lochlands Rijpmas Hollander 20773 P.I., *d.* Tyneside Marion 3rd 88262 *by* Wigginton Friesland 10829 P.I.

1601 **II.** (**£10.**)—John Horridge, Plas Llanfair, Llanfair P.G., Anglesey, for **Llanfair Neeltje 3rd** 129224 P.I., born Jan. 13; *s.* Llanfair Paul 20755 P.I., *d.* Bladen (imp.) Neeltje 3rd 16942 *by* Ceres 4497 F.R.S.

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[1] Perpetual Bronze Challenge Trophy given by the Friesland Cattle Breeders' Association of South Africa for the best group of three British Friesian animals, bred by Exhibitor.

[2] Silver Challenge Cup given through the British Friesian Cattle Society for the best group of three Cows or Heifers.

[3] Prizes, except Fourth and Fifth, given by the British Friesian Cattle Society.

1598 **III. (£5.)**—Lord Glentanar, for **Glentanar Wanda** 127240, born Feb. 27; *s.* Commieston Betsecond Series 22371 P.I., *d.* Findlay Chance 71192 *by* Golf (imp.) Botermijn 3919.

1603 **IV. (£4.)**—G. B. Radcliffe, Pool Bank, Tarvin, Cheshire, for **Tarvin Rowena** 132138, born Feb. 6; *s.* Mapleton Hilko's Ironclad 26511 P.I., *d.* Tarvin Lois 66582 *by* Bulkeley Klaske's Second Ceres 11187 P.I.

1591 **V. (£3.)**—Capt. John Christie, M.C., Glyndebourne, Ringmer, Lewes, for **Glyndebourne Nellie** 127268, born May 10; *s.* Glyndebourne Rikulysses 25785 P.I., *d.* Loirston Nellie 3rd 54790 *by* Reddown (imp.) Murk 4377.

1590 **R. N.**—Capt. John Christie, M.C., for **Glyndebourne Collona.**

H. C.—1596, 1600, 1604.

Class 185.—*British Friesian Heifers, born on or between July* 1 *and December* 31, 1928.[1]

1608 **I. (£15.)**—Ethelbert Furness, Hamels Park, Buntingford, for **Hamels Keg o' Milk** 127552, born Sept. 3; *s.* Hamels Froukje's Nicolas 28725 P.I., *d.* Hamels Ingot 105542 *by* Hamels Daphne's Bertus 17191.

1623 **II. (£10.)**—W. and R. Wallace, Swangleys Farm, Knebworth, Herts, for **Randcourt Peridot** 131066, born Aug. 29, bred by E. Slinger, Court Farm, Randwick; *s.* Holyport Ulysses 28887 P.I., *d.* Craigie Peridot 51680 *by* Dunninald Isaac 9535.

1618 **III. (£5.)**—Hubert M. Martineau, The Lodge, Holyport, Berks, for **Holyport Irene** 128096 P.I., born Sept. 12; *s.* Hedges Second Series 6427 P.I., *d.* Mapleton Irene 84798 *by* Mapleton (imp. 1922) Hilko 20907.

1611 **IV. (£4.)**—W. H. R. Gilbert, The Cottage, Aston Flamville, Hinckley, for **Astonville Black Girl 2nd** 123216, born July 12; *s.* Tarvin Janke's Mazeppa 24357 P.I., *d.* Terling Black Girl 13th 57276 *by* Tarvin Zwarte Frits 12805 P.I.

1622 **V. (£3.)**—Harold Tatlow, Brome Hall Farm, Lapworth, Birmingham, for **Herrington Interest** 127884, born July 1, bred by A. Weightman, Middle Herrington Farm, Sunderland; *s.* Wychnor Jan 24645 P.I., *d.* Berwick Ringlet 59064 *by* Tyneside (imp.) Janus 4591.

1614 **R. N.**—Mrs. E. Harbord, Kirk Deighton Hall, Wetherby, for **Nunmonkton Harlequin.**

H. C.—1619, 1621.

Ayrshires.

Class 186.—*Ayrshire Bulls, born on or before September* 1, 1928.

1628 **I. (£15.)**—F. A. Rottenburg, Lochlane, Crieff, for **Netherall Up to Date** 27366, born Jan. 28, 1927, bred by T. Scott, Netherhall, Sandilands; *s.* Rowallan Menelaus 24430, *d.* Netherhall Susan 58811 *by* South Craig Flash Boy 15236.

1629 **II. (£10.)**—F. H. Sanderson, Eshott Home Farm, Felton, Northumberland, for **Eshott Element** 27020, born March 27, 1926; *s.* Howie's Eminent 16973, *d.* Newlands Elma 70714 *by* Newlands King 16764.

1624 **III. (£5.)**—H. J. Clark, Oldner House, Chipping Norton, for **Carnell Flashlight** 27414, born May 12, 1927, bred by George Templeton, Carnell Home Farm, Hurlford; *s.* Dunlop Reflection 25733, *d.* Carnell Phyllis 95230 *by* Catcraig Litigant 19731.

1625 **R. N.**—E. Greenshields, Ivy House, East Herrington, Sunderland, for **Catlins Wait and See.**

Class 187A.—*Ayrshire Cows, in-milk, born on or before September* 1, 1925.

1649 **I. (£15.)**—The National Society for Epileptics, Chalfont Colony, Chalfont St. Peter, Bucks, for **Bruchag Pearl 11th** A. 8600, born May 4, 1920, calved June 21, 1929, bred by Mrs. Mackay, Bruchag, Rothesay; *s.* Auchenbrain Captivator 17532, *d.* Bruchag Pearl B. 2628 *by* Bruchag Ardyne 7453.

1645 **II. (£10.)**—Alexander McFarlane, Salchrie Farm, Kirkholm, Stranraer, for **Burnside White Queen** 61297, born Feb. 22, 1918, calved June 14, 1929, bred by D. and C. Shaw, Burnside, Mauchline; *s.* Burnside Diamond 18046, *d.* Burnside Spotted Queen 27502 *by* Howie's Conductor 6486.

1641 **III. (£5.)**—A. and A. Kirkpatrick, Barr, Sanguhar, for **Barr June** 7210, born June 6, 1925, calved May 22, 1929; *s.* Sandhill Flashlight 21331, *d.* Barr Flirt A. 8026 *by* Burnside Lord Flashwood 13470.

1653 **IV. (£4.)**—David Wallace, Auchenbrain, Mauchline, Ayrshire, for **Auchenbrain Big Kate 13th** 92360, born Feb. 22, 1923, calved June 2, 1929; *s.* South Craig Footprint 19958, *d.* Auchenbrain Big Kate 6th 47505 *by* Auchenbrain Exchange 10208.

H. C.—1634.

Class 187B.—*Ayrshire Cows, in-calf, born on or before September* 1, 1925.

1639 **I. (£15.)**—John Johnstone, Millantae, Lockerbie, for **Millantae White Poppy** 13932, born Aug. 20, 1924; *s.* Bargenoch Nugget 18484, *d.* Millantae Poppy 93031 *by* Auldbreck Coronation 13041.

1637 **II. (£10.)**—E. Greenshields, Ivy House, East Herrington, Sunderland, for **Willoxton Rosebud** 92192, born Jan. 20, 1923, bred by R. Templeton, Willoxton, Mauchline; *s.* Catcraig Record Time 20942, *d.* Willoxton Miss Prize 68423 *by* Nether Craig Enterprise 17675.

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[1] Prizes, except Fourth and Fifth, given by the British Friesian Cattle Society.

1647 III. (£5.)—ADAM W. MONTGOMERIE, Lessnessock, Ochiltree, Ayrshire, for **Lessnessock Sylvia 2nd** 1825, born May 13, 1925; *s.* Harleyholm Brown Bobby 23344, *d.* Lessnessock Sylvia 84297 *by* Netherton Limelight 19565.
1632 R. N.—FRANK BARKER, Home Farm, Bretton, Wakefield, for **Syke Lilac 2nd.**

Class 188.—*Ayrshire Cows or Heifers, in-milk or in-calf, born after September* 1, 1925.[1]

1660 I. (£15.)—A. B. HOWIE, Eshott Brocks, Felton, Morpeth, for **Brocks Dandy** 7414, born Nov. 5, 1925, in-calf; *s.* Howie's Night Patrol 23743, *d.* Catlinns Dandelion 70925 *by* Hobsland Bellringer 15087.
1655 II. (£10.)—ALEXANDER COCHRANE, Nether Craig, Kilmarnock, for **Nether Craig Water Lily** 11432, born March 16, 1927, in-calf; *s.* Hobsland Lucky Boy 16482, *d.* Beuchan Wallflower 5th 56805 *by* Holehouse Sunrise 11044.
1658 III. (£5.)—COLONEL W. T. R. HOULDSWORTH, Threave, Kirkmichael, Ayrshire, for **Dunlop Majesty** 10803, born March 19, 1927, in-calf, bred by Mrs. Houison Craufurd, Dunlop Place, Dunlop, Ayrshire; *s.* Auchenbrain British King 25610, *d.* Dunlop Magic 96063 *by* Howie's Grandee 15282.
1661 IV. (£4.)—A. and A. KIRKPATRICK, Barr, Sanquhar, for **Barr Jeanie Deans** 7188, born March 1, 1926, in-milk, calved May 21, 1929; *s.* Sandhill Flashlight 21331, *d.* Barr Dusky Maid 68931 *by* Drumsuie Gaiety 13250.
1656 R. N.—JOHN N. DRUMMOND, Bargower, Hurlford, Ayr, for **Bargower Cherry 7th.**

Guernseys.

N.B.—Unless otherwise stated the numbers refer to the English Guernsey Herd Book.

Class 189.—*Guernsey Bulls, born in or before* 1926.

1673 I. (£15, & Champion.[2])—LORD POLTIMORE, Court Hall, North Molton, Devon, for **Poltimore Royal Fancy** 6236, fawn and white, born Jan. 25, 1926; *s.* Royal of Beaulieu 4922 A.R. 164, *d.* Lily's Fancy of Primrose Farm 19233 A.R. 2100 *by* Queen's Fancy 4913 A.R. 13.
1666 II. (£10, & R. N. for Champion.[2])—GEORGE BLIGHT, Tregonning, Breage, Helston, for **Trestrayle Myrtle Boy** 5962, yellow and white, born June 8, 1925, bred by Archdeacon Raffles-Flint, Nansawsan, Ladock; *s.* Rival of Myrtle Place 5219, *d.* Ladock Pamela 19254 *by* Glencairn Daisy's Sequel 4201.
1672 III. (£5.)—MISSES HARGREAVES, Nazeing Park, Essex, for **Clara's Lad of King's Mills** 6020, fawn and white, born July 26, 1924, bred by J. N. Dorey, King's Mills, Catel, Guernsey; *s.* May Rose Lad of the Spurs 6153, *d.* Clara's Bounty of Maple Lodge 8995 P.S., R.G.A.S. *by* Clara's Emblem 3994 P.S., R.G.A.S.
1667 IV. (£4.)—MAJOR R. W. COOPER, M.C., Tackley Park, Oxford, for **Frosine's Lad of La Pouquelâh** 6853, fawn and white, born Nov. 19, 1925, bred by C. H. Le Tissier, Pouquelâh, Guernsey; *s.* Valentine's Souvenir 4788 P.S., R.G.A.S., *d.* Frosine of Pouquelâh 20121 P.S., R.G.A.S., A.R. 718 *by* Angulosa's Lad of Lilyvale 3969 P.S., R.G.A.S.
1669 R. N.—SIR ERIC HAMBRO, K.B.E., Milton Abbey, Blandford, for **Fernhill Rose Lad.**

Class 190.—*Guernsey Bulls, born in* 1927.

1679 I. (£15.)—SIR ERIC HAMBRO, K.B.E., Milton Abbey, Blandford, for **Milton Goldfinder 2nd** 6780, fawn and white, born Jan. 21; *s.* Hayes Goldfinder 2nd 5788, *d.* Hayes Ivy 2nd 21160 *by* Downe Warblers Dream 4th 4773.
1676 II. (£10.)—W. DUNKELS, Fernhill Park, Windsor Forest, for **Fernhill Rose Lad 3rd** 6860, fawn and white, born May 20; *s.* Rose Lad of Goodnestone 3163, *d.* Downe Fleur of Vimiera 14281 *by* Valentine's Honour of the Passée 3826.
1681 III. (£5.)—MRS. J. SUTCLIFFE PYMAN, Norsebury, Sutton Scotney, Hants, for **Norsebury Noel** 6875, dark fawn and little white, born May 28; *s.* Woodlands Noel 5718, *d.* Rosey of Goodnestone 25th 21839 *by* Rose Lad of Goodnestone 3163 A.R. 32.
1680 R. N.—VISCOUNT LASCELLES, K.G., Goldsborough Hall, Knaresborough, for **Lady White's Rex.**

Class 191.—*Guernsey Bulls, born in* 1928.

1692 I. (£15.)—LORD REMNANT, Bear Place, Hare Hatch, Twyford, Berks, for **Dene Star 2nd** 7377, fawn and white, born June 19; *s.* Dene Victor of the Issues 2nd 6198, *d.* Dene Starette 22227 *by* Dene Treacle's Boy 4749.
1686 II. (£10.)—E. R. DEBENHAM, Bladen Farms, Briantspuddle, Dorchester, for **Milton Rose Lad** 7330, fawn and white, born June 12, bred by Sir Eric Hambro, K.B.E., Milton Abbey, Blandford; *s.* Fern Hill Rose Lad 6432, *d.* Milton Rosey 5th 16764 A.R.(Eng.) 2593 *by* Hayes Pride 3951 A.R. 37.
1683 III. (£5.)—W. A. ARGENT, Rusper, Horsham, for **Wintergreen's Sequel of Rusper** 7143, fawn and white, born Feb. 29; *s.* Sequel's Kismet 2nd 5998, *d.* Wintergreen of Goodnestone 12th 18578 *by* Rose Lad of Goodnestone 3163.

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[1] Prizes, except Fourth, given by the Ayrshire Cattle Herd Book Society.
[2] Champion Prize of £5 given by the English Guernsey Cattle Society, for the best Bull.

1691 **IV. (£4.)**—Lord Poltimore, Court Hall, North Molton, Devon, for **Poltimore Lucky Lad 2nd** 7403, fawn and white, born July 14; *s.* Poltimore Talisman 5919, *d.* Lily 4th des Osmonds 19232 A.R. 2582 *by* Sequel's Slogan 4933 A.R. 17.

1693 **V. (£3.)**—Eric H. Rose, Leweston Manor, Sherborne, Dorset, for **Lynchmere Lord Roberts 21st** 7289, fawn and white, born May 26, bred by the Exors. of Mrs. Pratt-Barlow, Lynchmere House, Haslemere; *s.* Lynchmere Lord Roberts 15th 3982, *d.* Castorum Nellie 22741 *by* Governor of Roussaillerie 5647.

1689 **R. N.**—Sir W. H. N. Goschen, Bart., K.B.E., Durrington House, Harlow, for **May Belle's Sequel 2nd.**

Class 192.—*Guernsey Cows, in-milk, born in or before* 1924.

1695 **I. (£15, & Champion.[1])**—W. A. Argent, Rusper, Horsham, for **Wintergreen of Goodnestone 10th** 18576, fawn and white, born May 28, 1922, calved June 26, 1929, bred by Lord FitzWalter, Goodnestone Park, Canterbury; *s.* Rose Lad of Goodnestone 3163, *d.* Wintergreen of Goodnestone 2nd 14018 *by* Sequel's Delight 2nd 3403.

1697 **II. (£10.)**—Major R. W. Cooper, M.C., Tackley Park, Oxford, for **Primrose of Les Nicholles** 26306, fawn and white, born April 13, 1924, calved May 3, 1929, bred by A. Priaulx, Les Nicholles, Forest, Guernsey; *s.* Cyrene's Lad of the Rouvets 4252 P.S., R.G.A.S., A.R. 136, *d.* Dairymaid 3rd of Les Nicholles 20196 P.S., R.G.A.S. *by* Noble Pride of the Glen 4052 P.S., R.G.A.S.

1698 **III. (£5.)**—W. Dunkels, Fernhill Park, Windsor Forest, for **Fernhill Rose** 18813, fawn and white, born Aug. 8, 1923, calved April 5, 1929; *s.* Murrell Desmond 4263, *d.* Lynchmere Rose of Kent 5th 14574 *by* Prince of Vimiera 3577.

1700 **IV. (£4.)**—Misses Hargreaves, Nazeing Park, Essex, for **Downe Violet's Pride 2nd** 16419, fawn and white, born July 7, 1921, calved May 25, 1929, bred by D. C. Haldeman, Hayes, Kent; *s.* Warbler's Dream 3249, *d.* Downe Violet's Pride 14287 *by* Sailor Lad of the Fontaine 3725 P.S.

1696 **R. N.**—George Blight, Tregonning, Breage, Helston, for **Jane of Tregonning 7th.**

Class 193.—*Guernsey Cows or Heifers, in-milk, born in* 1925 *or* 1926.[2]

1711 **I. (£15, & R. N. for Champion.[1])**—W. Dunkels, Fernhill Park, Windsor Forest, for **Hindhead Poppy 2nd** 22450, dark fawn, born June 10, 1925, calved May 11, 1929, bred by J. Body, Hindhead Court, Hindhead, Surrey; *s.* Lynchmere Lord Roberts 15th 3892, *d.* Hindhead Polly 16602 *by* Slogan of Bon Espoir 4137.

1719 **II. (£10.)**—Mrs. J. Sutcliffe Pyman, Norsebury, Sutton Scotney, Hants, for **Hindhead Tulip** 22153, fawn and little white, born March 29, 1925, calved June 14, 1929, bred by J. B. Body, Hindhead Court, Hindhead, Surrey; *s.* Hindhead Governor 4842, *d.* Hindhead Rushton Trillium 18723 *by* Lynchmere Lord Roberts 15th 3982.

1705 **III. (£5.)**—W. A. Argent, Rusper, Horsham, for **Clara's Fashion 3rd** 29578, fawn and white, born Dec. 2, 1926, calved May 10, 1929, bred by E. P. Mahy, Maple Lodge, Guernsey; *s.* Rex of Maple Lodge 6448, *d.* Clara's Fashion 21421 P.S., R.G.A.S. *by* Sequel's Lodestar 5287.

1706 **IV. (£4.)**—W. A. Argent, for **Wintergreen 4th of Rusper** 23996, fawn and white, born March 3, 1926, calved May 12, 1929; *s.* Sequel's Slogan 2nd 4311, *d.* Wintergreen of Goodnestone 10th 18576 *by* Rose Lad of Goodnestone 3163.

1717 **V. (£3.)**—Capt. Harold J. Pilbrow, Mapleton, Four Elms, Edenbridge, for **Mapleton Peggy of L'Ancresse** 27272, fawn and white, born April 5, 1926, calved June 16, 1929, bred by C. Stacey, L'Ancresse, Vale, Guernsey; *s.* Bickleigh Noble 4th 4869 P.S., R.G.A.S., *d.* Florence of Les Quartiers 19025 P.S., R.G.A.S. *by* Valentine's Secret 3827.

1715 **R. N.**—Lieut.-Col. Spencer Follett, Rockbeare Manor, Devon, for **Rockbeare Edwina.**

Class 194.—*Guernsey Heifers, born in* 1927.

1724 **I. (£15.)**—Sir W. H. N. Goschen, Bart., K.B.E., Durrington House, Harlow, for **Durrington Charmer 10th** 26223, dark fawn and white, born May 18; *s.* Durrington Beauty's Sequel 2nd 6036, *d.* Durrington Charmer 8th 22860 *by* Jolie's Durrington Hope 5078.

1730 **II. (£10.)**—Eric H. Rose, Leweston Manor, Sherborne, Dorset, for **Lynchmere Christine** 26346, fawn, born May 8, bred by the late Mrs. Pratt-Barlow, Lynchmere House, Haslemere; *s.* May Lad 2nd of the Spurs 5951, *d.* Castrorum Christine 22737 *by* Governor of Roussaillerie 5647.

1729 **III. (£5.)**—Mrs. J. Sutcliffe Pyman, Norsebury, Sutton Scotney, Hants, for **Rosey of Goodnestone 33rd** 25809, fawn and little white, born Feb. 8, bred by Lord FitzWalter, Goodnestone Park, Canterbury; *s.* Clara's Lad of Kings Mills 6020, *d.* Rosey of Goodnestone 22nd 20243 A.R. *by* Sequel's Slogan 2nd 4311.

1722 **IV. (£4.)**—W. A. Argent, Rusper, Horsham, for **Ely Polly Griggs** 25718, fawn and white, born Jan. 16, bred by B. Davis, Ely Place, Frant; *s.* May Rose Lad of the Spurs 6153, *d.* Polly of Lillyvale 23428 *by* Mabel's Boy of Tamworth 260 P.S., R.A.A.S.

1725 **R. N.**—The Earl of Harewood, Harewood House, Leeds, for **Harewood Regina.**

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[1] Champion Prize of £5 given by the English Guernsey Cattle Society for the best Cow or Heifer.

[2] Prizes, except Fourth and Fifth, given by the English Guernsey Cattle Society.

Class 195.—*Guernsey Heifers, born in* 1928.

1737 **I. (£15.)**—W. Dunkels, Fernhill Park, Windsor Forest, for **Fernhill Fleur** 28604, fawn and white, born June 7; *s.* Hindhead Robert 6th 5847, *d.* Downe Fleur of Vimiera 14281 *by* Valentine's Honour of the Passee 3826.

1746 **II. (£10.)**—Lord Poltimore, Court Hall, North Molton, Devon, for **Poltimore Anemone** 28280, fawn and white, born May 2; *s.* Poltimore Royal Fancy 6236, *d.* Asteria of Sous La Lande 26560 *by* Islander 2nd of the Camp 4920 P.S., R.G.A.S.

1745 **III. (£5.)**—Capt. Harold J. Pilbrow, Mapleton, Four Elms, Edenbridge, for **Ringwould Emily** 28862, fawn and white, born July 15, bred by J. E. Monins, Ringwould House, Ringwould, Kent; *s.* Hindhead Robert 5th 5672, *d.* Rose of the Old Mill 25058 *by* Bickleigh's Noble 3rd 294 P.S., R.A.A.S.

1748 **IV. (£4.)**—Eric H. Rose, Leweston Manor, Sherborne, Dorset, for **Valentine of Vimiera** 29327, fawn and white, born May 14, bred by A. Berthon, Vimiera, St. Peter Port, Guernsey; *s.* Rex of Havilland Hall 7486, *d.* Rosie 3rd of Vimiera 24606 P.S., R.G.A.S. *by* Valentine's Honour 2nd 4521 P.S., R.G.A.S.

1742 **V. (£3.)**—Misses Hargreaves, Nazeing Park, Essex, for **Nazeing Marigold 8th** 28718, fawn and white, born June 27; *s.* Clara's Lad of King's Mills 6020, *d.* Nazeing Marigold 3rd 21311 *by* Downe Star of Honeymoon 3909.

1744 **R. N.**—Capt. Harold J. Pilbrow, for **Mapleton Princess Louie.**

Jerseys.

N.B.—In the Jersey Classes, the number inserted within brackets after the name of an animal indicates the number of such animal in the Island Herd Book. A number without brackets indicates that the animal is registered in the English Jersey Herd Book.

Class 196.—*Jersey Bulls, born in or before* 1926.

1755 **I. (£15, & R. N. for Champion.[1])**—Cortlandt Taylor, Platt House Farm, Wrotham, Kent, for **Gloxalia's Blue Boy** 15656, whole colour, born Sept. 3, 1925, bred by Mrs. V. Hartcup, Newhouse, Penshurst; *s.* Gloxalias Penshurst Pilgrim 15189, *d.* Bluebell 1516 *by* Pioneer's Prime 13700.

1751 **II. (£10.)**—Sir Harold Mackintosh, Conyngham Hall, Knaresborough, for **North Stoke Beechnut** 15728, whole colour, born April 16, 1925, bred by C. V. Sale, Aston Rowant, Oxon; *s.* Lenton Rupert 14668, *d.* Beechwood Success *by* General Cowslip 10960.

1750 **III. (£5.)**—A. W. Ruggles Brise, Spains Hall, Braintree, for **Lingen Sweep Time** 15523, whole colour, born June 9, 1924, bred by Col. L. G. Gisborne, Lingen Hall, Bucknell, Salop; *s.* The Sweep 14144, *d.* Thyme *by* Lucy's Gem 13342.

1753 **R. N.**—Haydon Stephen-Fox, Sharelands, Blackboys, Sussex, for **Cowdray Pioneer 11th.**

H. C.—1752, 1754.

Class 197.—*Jersey Bulls, born in* 1927.

1759 **I. (£15, & Champion.[1])**—H. Cecil Pelly, Venars, Nutfield, Surrey, for **Kentwins Poppy's Aroma,** whole colour, born May 28; *s.* Poppy's You'll Do 16060, *d.* Flashlight Josy 6354 *by* Flashlight 14993.

1757 **II. (£10.)**—Sir John B. Lloyd, Foxbury, Stone Street, Sevenoaks, for **La Pompe You'll Do,** whole colour, born Aug. 26, bred by J. O. Arthur, St. Mary, Jersey; *s.* Poppy's You'll Do 16060, *d.* La Pompe Flash *by* Flashlight 14993.

1761 **III. (£5.)**—Mrs. E. K. Staines, Hook Farm, Leigh, Reigate, for **Golden Hook,** broken colour, born June 1; *s.* Origa's Golden Fern 15398, *d.* Masterman's Golden Cidonia (Vol. 34, p. 380) *by* Masterman of Oaklands 13020.

1763 **R. N.**—A. Anderdon Weston, Holme Grange, Wokingham, for **Oreston Gamboler.**

H. C.—1756, 1760, 1762.

Class 198.—*Jersey Bulls, born in* 1928.

1776 **I. (£15.)**—Cortlandt Taylor, Platt House Farm, Wrotham, Kent, for **Fairsea Majestic,** whole colour, born March 21; *s.* The Demon 15793, *d.* Majestic's Peggy 3644 *by* Danbury Majestic 13901.

1768 **II. (£10.)**—Mrs. Evelyn, Wotton House, Dorking, for **Bright Eyes Sweep,** whole colour, born June 28, bred by A. W. Ruggles-Brise, Spains Hall, Braintree; *s.* Lingen Sweep Time 15523, *d.* Bright Eyes Hessy 149 *by* Lord Capsicum 13340.

1771 **III. (£5.)**—C. J. Phillips, Old Dalby Hall, Melton Mowbray, for **Dalby Cuckoo,** whole colour, born July 10; *s.* Cupid 13894, *d.* Dalby April Flower 6191 by Rapkyns Black Knight 2nd 14429.

1765 **IV. (£4.)**—Mrs. G. J. Austin, Ellern Mede, Totteridge, Herts, for **Cheops,** whole colour, born Aug. 20; *s.* Majestic 15885, *d.* Chassis (Vol. 32, p. 294) *by* General Cowslip 10960.

1769 **V. (£3.)**—Sir John B. Lloyd, Foxbury, Stone Street, Sevenoaks, for **Pollux,** whole colour, born March 6; *s.* Roseland Obstructor 15897, *d.* Volunteer's Darling 1814 *by* Jersey Volunteer 12664.

1773 **R. N.**—W. H. Prescott, Highlands, Woldingham, Surrey, for **Aldbury Hamlet.**

H. C.—1772.

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[1] Champion Prize of £5 given by the English Jersey Cattle Society for the best Bull.

Class 199.—*Jersey Cows, in-milk, born in or before* 1925.

1782 **I. (£15, Champion,[1] & Special, £10.[2])**—Mrs. Evelyn, Wotton House, Dorking, for **Wotton May Moon** 4282, broken colour, born June 19, 1923, calved June 18, 1929; *s.* Henbury Moonlight 13301, *d.* Wotton Pink May *by* Red Cloud 11818.

1796 **II. (£10, & R. N. for Specials.[2])**—C. J. Phillips, Old Dalby Hall, Melton Mowbray, for **Dalby Knight's Safety** 4692, whole colour, born Jan. 4, 1924, calved June 18, 1929; *s.* Rapkyns Black Knight 2nd 14429, *d.* Champs Clairs Safety 2nd *by* Petune's Lad 13068.

1787 **III. (£5.)**—Capt. C. A. le Strange, Hunstanton Hall, Norfolk, for **Glenny 2nd** 590, fawn, born July 24, 1920, calved May 2, 1929; *s.* Xenia's Sultan 13798, *d.* Glenny *by* Sleeper 13119.

1792 **IV. (£4.)**—Sir Harold Mackintosh, Conyngham Hall, Knaresborough, for **Romola's Pride**, broken colour, born April 13, 1924, calved March 30, 1929, bred by Major C. Riley, Trinity, Jersey; *s.* Pedro 14733, *d.* Romola (30282) *by* Prince Prudence 3rd 13710.

1802 **V. (£3.)**—Cortlandt Taylor, Platt House Farm, Wrotham, Kent, for **Nobody's Pet** 2355, whole colour, born May 16, 1922, calved March 25, 1929, bred by J. Priaulx, junr., St. Johns, Jersey; *s.* War Bread 13785, *d.* Princess Pat (27727) *by* Sleeper 13119.

1777 **R. N.**—Mrs. G. J. Austin, Ellern Mede, Totteridge, Herts, for **Golden Beauty.**

H. C.—1788, 1791, 1795, 1798. **C.**—1790, 1794, 1799.

Class 200.—*Jersey Heifers, in-milk, born in* 1926.

1804 **I. (£15, R. N. for Champion,[1] & Special, £5.[2])**—Mrs. G. J. Austin, Ellern Mede, Totteridge, Herts, for **Red Bow** 7007, broken colour, born April 2, calved May 17, 1929; *s.* Golden Orb 15005, *d.* Mont Pellier Blue Bow 5320 by Idas Roseboy 13982.

1811 **II. (£10.)**—W. H. Prescott, Highlands, Woldingham, Surrey, for **Groombridge Sweetbread** (Vol. 38, p. 150), whole colour, born April 4, calved June 5, 1929, bred by H. S. Mountain, Groombridge, Kent; *s.* Jacobus 15192, *d.* Sweetbread 49th 2640 *by* Masterman of Oaklands 13020.

1807 **III. (£5.)**—Mrs. Evelyn, Wotton House, Dorking, for **Wotton Psamead**, whole colour, born June 5, calved June 19, 1929; *s.* Charm of War 15279, *d.* Sand Princess 5585 *by* Wotton Sand Storm 14503.

1812 **IV. (£4.)**—Mrs. A. F. Hayes Sadler, Horne Court, Horley, Surrey, for **Lady Poppy**, whole colour, born March 3, calved April 23, 1929; *s.* Cids Poppy Boy 15281, *d.* Eastfield Lady *by* Jersey Volunteer 12664.

1805 **V. (£3.)**—Miss R. B. Babcock, Shawlands, Lingfield, Surrey, for **Prudence Farewell** (35236), whole colour, born Jan. 1, calved April 16, 1929, bred by A. J. Blanped, Trinity, Jersey; *s.* Prince Prudence 3rd 13710, *d.* Miss Pickford (29817) *by* Majesty's Christmas (13009).

1809 **R. N.**—Sir Harold Mackintosh, Conyngham Hall, Knaresborough, for **Bradley Oxford Lilian 3rd.**

H. C.—1808, 1814.

Class 201.—*Jersey Heifers, in-milk, born in* 1927.[3]

1819 **I. (£15.)**—A. W. Ruggles Brise, Spains Hall, Braintree, for **Hamletta's Mistress** (Vol. 39, p. 190), whole colour, born March 24, calved April 23, 1929; *s.* Lingen Sweep Time 15523, *d.* Hamletta 5th *by* Combination 2nd 11644.

1820 **II. (£10.)**—A. W. Ruggles Brise, for **Lady Sweep Time** (Vol. 39, p. 190), whole colour, born March 29, calved May 30, 1929; *s.* Lingen Sweep Time 15523, *d.* Ladysmith 3rd *by* Briton 9517.

1831 **III. (£5.)**—Cortlandt Taylor, Platt House Farm, Wrotham, Kent, for **Fairseat Favorita** (Vol. 39, p. 211), broken colour, born Feb. 18, calved May 11, 1929; *s.* Mantle's Favourite 15063, *d.* Broadlands Favourite 2nd 4477 *by* Xenia's Sultan 13798.

1826 **IV. (£4.)**—J. Pierpont Morgan, Wall Hall, Watford, for **Fairseat Little Lady** (Vol. 39, p. 211), whole colour, born Feb. 28, calved April 18, 1929, bred by Cortlandt Taylor, Platt House Farm, Wrotham, Kent; *s.* Mantle's Favourite 15063, *d.* Little Lady *by* Pioneer's Prime 13700.

1817 **V. (£3.)**—Miss R. B. Babcock, Shawlands, Lingfield, Surrey, for **Marston Brooklet** (Vol. 39, p. 243), whole colour, born May 21, calved June 26, 1929, bred by W. Wilkins, Central Farm, Long Marston, Tring; *s.* Columbier's Actor 15952, *d.* Les Vaux Brookvale (26906) *by* Les Vaux King 15357.

1828 **R. N.**—The Hon. Mrs. Murray Smith, Gumley Hall, Market Harborough, for **Valetta.**

H. C.—1816, 1824, 1829. **C.**—1821, 1830.

Class 202.—*Jersey Heifers, born in* 1928.

1834 **I. (£15.)**—Miss R. B. Babcock, Shawlands, Lingfield, Surrey, for **Frostie's Icicle**, broken colour, born March 24, bred by Misses Hare and Hornby, Hardwick Farm, Chertsey; *s.* Sultan's Dreaming Prince 16097, *d.* Frosty 4th (Vol. 33, p. 326) *by* The Cid 12478.

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[1] Champion Prize of £5 given by the English Jersey Cattle Society for the best Cow or Heifer.

[2] Special Prizes of £10 (First Prize) and £5 (Second Prize) given by the English Jersey Cattle Society for the best Cows or Heifers in Classes 199 to 201, bred by Exhibitor, and milked out to the Judge's satisfaction before being judged.

[3] Prizes, except Fourth and Fifth, given by the English Jersey Cattle Society.

1839 II. (£10.)—Mrs. Evelyn, Wotton House, Dorking, for **Wotton Aurora,** whole colour, born March 24; *s.* Henbury Sunrise 15873, *d.* Wotton Rare Veau *by* Wotton Airman 2nd 14502.

1848 III. (£5.)—Cortlandt Taylor, Platt House Farm, Wrotham, Kent, for **Fairseat Favorita 2nd,** whole colour, born March 3; *s.* The Demon 15793, *d.* Broadland's Favourite 2nd 4477 *by* Xenia's Sultan 13798.

1842 IV. (£4.)—Sir Harold Mackintosh, Conyngham Hall, Knaresborough, for **Conyngham's Louise,** whole colour, born March 17; *s.* St. Louis 14778, *d.* Philandra 2411 *by* Pilgrim 13699.

1835 V. (£3.)—Miss R. B. Babcock, for **Hook Juanita,** whole colour, born April 25, bred by Mrs. Staines, Hook Farm, Leigh, Surrey; *s.* Calverden Pet 15621, *d.* Roseland Pedro's Juanita 5559 *by* Pedro 14733.

Cup.[1]—Mrs. Evelyn.

R. N. for Cup.[1]—Cortlandt Taylor.

Kerrys.

N.B.—In the Kerry Classes, the number inserted within brackets after the name of an animal indicates the number of such animal in the Royal Dublin Society's Herd Book. A number without brackets indicates that the animal is registered in the British Kerry Herd Book.

Class 203.—*Kerry Bulls, born in or before* 1927.

1852 I. (£15.)—John William Towler, Wadlands Hall, Farsley, Leeds, for **Wadlands Flash Boy** 814, born July 3, 1926; *s.* Wadlands Flashpoint 621, *d.* Wadlands Charmer 3270 F.S.

1851 II. (£10.)—Kerry Estates, Ltd., The Warren House Farm, Stanmore, Middlesex, for **Valencia Shah** 785, born May 16, 1926; *s.* Raven of Carton 661, *d.* Valencia Sunflower 2804 *by* Czar of Carton 506.

1849 III. (£5.)—Miss P. de B. Bowen-Colthurst, The Kerry Cow Dairy Farms, Layer-de-la-Haye, Colchester, for **Drumgaunagh Black Knight** 798, born Oct. 17, 1927; *s.* Valencia Linksman 496, *d.* Castle Lough Maid 3rd 2887 *by* Castle Lough Duke (745).

Class 204.—*Kerry Bulls, born in* 1928.

1856 I. (£15.)—Bertram W. A. Watney, Chaldon Mead, Caterham, for **Minley Comrade** 807, born June 9, bred by Laurence Currie, Minley Manor, Farnborough; *s.* Drumgaunagh Black Beauty 717, *d.* Minley Edna 4382 *by* Minley Monarch 654.

1853 II. (£10.)—Elmhurst Farming and Trading Co., Ltd., Elmhurst Farm, Slinfold, Sussex, for **Elmhurst Haymaker,** born March 22; *s.* Baunclione Evander 710, *d.* Coquet Hebe 2368 *by* Coquet Emperor 396.

1857 III. (£5.)—Capt. Nelson Zambra, M.C., and C. Williamson Milne, West Tisted Manor, Hants, for **Hattingley Gulliver,** born June 16; *s.* Hattingley Christopher 722, *d.* Curly of Warren 4083 *by* Ruthera Drops 413.

1854 R. N.—Kerry Estates, Ltd., The Warren House Farm, Stanmore, Middlesex, for **Valencia Ransome.**

H. C.—1855.

Class 205.—*Kerry Cows, in-milk, born in or before* 1925.

1864 I. (£15, & Champion.[2])—Kerry Estates, Ltd., The Warren House Farm, Stanmore, Middlesex, for **Valencia Sunflower** 2804, born March 18, 921, calved June 7, 1929; *s.* Czar of Carton 506, *d.* Sheen 16th (2756) *by* Kilmorna Lord 6th (698).

1868 II. (£10.)—Capt. Nelson Zambra, M.C., and C. Williamson Milne, West Tisted Manor, Hants, for **Hattingley Belle** 4116, born May 6, 1923, calved May 11, 1929; *s.* Valencia Samson 535, *d.* Hattingley High Kick 2402 F.S.

1862 III. (£5.)—Elmhurst Farming and Trading Co., Ltd., Elmhurst Farm, Slinfold, Sussex, for **Valencia Una** 3474, born April 8, 1922, calved May 18, 1929, bred by the Knight of Kerry, Stanmore, Middlesex; *s.* Czar of Carton 506, *d.* Valencia Meta 2799 *by* Valencia Lord 1st (782).

1865 IV. (£4.)—John William Towler, Wadlands Hall, Farsley, Leeds, for **Vaddy Trent 4th** 2322, born March 26, 1918, calved May 22, 1929, bred by Mrs. E. Robertson, Dog Leap, Limavady, Co. Derry; *s.* Vaddy Warre 419, *d.* Vaddy Trent 3rd 2092 *by* Walton Maeldum 315.

1867 R. N.—John William Towler, for **Wadlands Drops.**

C.—1866.

Class 206.—*Kerry Heifers, in-milk, born in* 1926 *or* 1927.

1870 I. (£15, & R. N. for Champion.[2])—Elmhurst Farming and Trading Co., Ltd., Elmhurst Farm, Slinfold, Sussex, for **Elmhurst Go Fetch** 4537, born June 30, 1927, calved June 14, 1929; *s.* Elmhurst Endeavour 686, *d.* Elmhurst Dewpond 3869 *by* Hattingley Buck 589.

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[1] The "Conyngham" Perpetual Silver Challenge Cup given through the English Jersey Cattle Society for the most points awarded in a combination of entries.

[2] Silver Challenge Cup given by the British Kerry Cattle Society for the best Kerry.

1871 II. (£10.)—Elmhurst Farming and Trading Co., Ltd., for **Mapnor Gipsy** 4578, born July 6, 1927, calved May 19, 1929, bred by Frank Guimaraens, Redhill; *s.* O.P.H. Glenstime Derby 729, *d.* O.P.H. Gipsy Drop 3643 *by* O.P.H. Sheen Mohr Blarney 447.
1874 III. (£5.)—Capt. Nelson Zambra, M.C., and C. Williamson Milne, West Tisted Manor, Hants, for **Hattingley Elegy**, born Nov. 17, 1926, calved May 8, 1929; *s.* Hattingley Bruce 692, *d.* Hattingley Black Diamond 4124 *by* Minley Monsoon 515.
1873 R. N.—John William Towler, Wadlands Hall, Farsley, Leeds, for **Wadlands Morella.**
H. C.—1872.

Class 207.—*Kerry Heifers, not in-milk, born on or between September* 1, 1927, *and December* 31, 1928.[1]

1878 I. (£15.)—Kerry Estates, Ltd., The Warren House Farm, Stanmore, Middlesex, for **Valencia Ruth**, born March 2, 1928; *s.* Elmhurst Excellency 687, *d.* Ruby of Carton 3731 *by* Prince 12th of Carton (802).
1877 II. (£10.)—Elmhurst Farming and Trading Co., Ltd., Elmhurst Farm, Slinfold, Sussex, for **Elmhurst Hope**, born April 30, 1928; *s.* Elmhurst Endeavour 686, *d.* Buckland Peace 2nd 3346 *by* Valencia Royal Chief 462.
1882 III. (£5.)—Bertram W. A. Watney, Chaldon Mead, Caterham, for **Chaldon Rose** 4505, born June 27, 1928; *s.* Chaldon Hornet 758, *d.* Dearie of Warren 3835 *by* Wadlands Castle Lough Lord 536.
1883 IV. (£4.)—Capt. Nelson Zambra, M.C., and C. Williamson Milne, West Tisted Manor, Hants, for **Hattingley Gleam**, born March 5, 1928; *s.* Hattingley Cyril 765, *d.* Hattingley Hack 2606 F.S.
1876 R.N.—Elmhurst Farming and Trading Co., Ltd., for **Elmhurst Geraldine.**
H. C.—1880.

Dexters.

N.B.—In the Dexter Classes, the number inserted within brackets after the name of an animal indicates the number of such animal in the Royal Dublin Society's Herd Book. A number without brackets indicates that the animal is registered in the English Dexter Herd Book.

Class 208.—*Dexter Bulls, born in or before* 1927.

1887 I. (£15.)—Mrs. Humphrey R. Pelly, Lyndsays Farm, Ingatestone, for **Lyndsays Cherry Pie** 962, born Sept. 10, 1926; *s.* Grinstead Cherrystones 837, *d.* Cowbridge Dainty Lass 2600 *by* Cowbridge French 606.
1886 II. (£10.)—Lady Loder, Leonardslee, Horsham, for **Grinstead Halfpenny** 958, born March 26, 1926; *s.* Brokenhurst Penny 2nd 694, *d.* Nuthurst Hawk 3rd 3338 *by* Brockhampton Monarch 693.
1884 III. (£5.)—Mrs. C. M. L. Calvert, Banwell Castle, Banwell, Somerset, for **Banwell Breeze** 993, born Oct. 18, 1927; *s.* Brentmoor Bracken 874, *d.* Speldhurst Rose 3033 *by* Braishfield Patrick 599.

Class 209.—*Dexter Bulls, born in* 1928.

1891 I. (£15.)—Mrs. T. H. Peyton, Colomendy, Mold, North Wales, for **Colomendy John**, born June 25; *s.* Grinstead Watersprite 928, *d.* Colomendy Mary 3787 *by* Oakridge Sentry 796.
1890 II. (£10.)—Mrs. Humphrey R. Pelly, Lyndsays Farm, Ingatestone, for **Dark Gentleman from Lyndsays** 1035, born April 24; *s.* Lyndsays Cherry Pie 962, *d.* Lyndsays Signal 3485 *by* Grinstead Toreador 788.
1888 III. (£5.)—Miss Dora Box, Darlingscote, Shipston-on-Stour, for **Banwell Edgar**, born April 30, bred by Mrs. C. M. L. Calvert, Banwell Castle, Somerset; *s.* Ratcliffe Goldsmith 976, *d.* Banwell Evangeline 3737 *by* Wightwick Paul 864.
1889 R. N.—Miss Dora Box, for **Wightwick Gadfly.**

Class 210.—*Dexter Cows, in-milk, born in or before* 1925.

1897 I. (£15, **R. N. for Champion.**[2] & **R. N. for Champion.**[3])—Lady Loder, Leonardslee, Horsham, for **Grinstead Carpatica** 3616, born Nov. 9, 1925, calved May 5, 1929; *s.* Cobham Clinker 826, *d.* Grinstead Carp 2501 *by* Brokenhurst Spalpeen 558.
1900 II. (£10.)—Mrs. T. H Peyton, Colomendy, Mold, North Wales, for **Gaynes Gay** 3800, born March 14, 1925, calved May 5, 1929, bred by the Hon. Gerald Wellesley and the Hon. Mrs. Duberly, Gaynes Hall, Huntingdon; *s.* Cobham Blacksmith 727, *d.* La Mancha Liz 2357 F.S.
1898 III. (£5.)—Lady Loder, for **Grinstead Convovulus** 3616, born Nov. 22, 1923, calved March 30, 1929; *s.* Brokenhurst Penny 2nd 694, *d.* Grinstead Carp 2501 *by* Brokenhurst Spalpeen 558.

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[1] Prizes, except Fourth, given by the British Kerry Cattle Society.

[2] Silver Challenge Cup given by the Dexter Cattle Society for the best Dexter.

[3] Silver Challenge Breeders' Bowl given through the Dexter Cattle Society for the best Dexter, which is already registered in the Dexter Herd Book, and is the progeny of sire and dam already registered.

1899 **R. N.**—MRS. HUMPHREY R. PELLY, Lyndsays Farm, Ingatestone, for **Lyndsays Signal.**
H. C.—1893, 1894.

Class 211.—*Dexter Heifers, in-milk, to first calving, born in* 1926 *or* 1927.

1904 **I. (£15, Champion,[1] & Champion.[2])**—LADY LODER, Leonardslee, Horsham, for **Grinstead Nightingale 4th** 3810, born Dec. 22, 1926, calved April 29, 1929; *s.* Brokenhurst Penny 2nd 694, *d.* Grinstead Nightingale 3310 *by* Cobham Caruso 729.
1903 **II. (£10.)**—MRS. ERNEST JOHNSON, Ashton Hayes, Chester, for **Ashtonhayes Honor** 3902, born May 11, 1927, calved June 21, 1929; *s.* Grinstead Farrier 787, *d.* Bourton Hill Gipsy Love 3226 *by* Bourton Hill Jock 718.
1902 **III. (£5.)**—MRS. C. M. L. CALVERT, Banwell Castle, Banwell, Somerset, for **Banwell Gladiolus 4th** 3913, born April 23, 1927, calved April 4, 1929; *s.* Banwell Brat 814, *d.* Maynards Gladiolus 3330 *by* Bagendon Nonsuch 687.
1901 **R. N.**—MISS DORA BOX, Darlingscote, Shipston-on-Stour, for **Wightwick Dora 3rd.**

Class 212.—*Dexter Heifers, not in milk, born in* 1927 *or* 1928.[3]

1911 **I. (£15.)**—MRS. T. H. PEYTON, Colomendy, Mold, North Wales, for **Colomendy Gay,** born May 23, 1927; *s.* Grinstead Tony 841, *d.* Gaynes Gay 3800 *by* Cobham Blacksmith 727.
1909 **II. (£10.)**—LADY LODER, Leonardslee, Horsham, for **Grinstead Hawk 4th** 4107, born June 7, 1928; *s.* Oakridge Evergood 2nd 1014, *d.* Grinstead Hawk 2253 *by* Oakridge Marston Knight 488.
1908 **III. (£5.)**—MRS. ERNEST JOHNSON, Ashton Hayes, Chester, for **Ashtonhayes Faidnait** 4049, born March 23, 1928; *s.* Grinstead Artful 955, *d.* Freshford Foxglove 3966 *by* Fillongley Forest Freebooter 786.
1905 **R. N.**—MISS DORA BOX, Darlingscote, Shipston-on-Stour, for **Wightwick Dot 3rd.**
H. C.—1906, 1910.

Milk Yield Classes.

Class 213.—*Dairy Shorthorn Cows or Heifers.*

1219 **I. (£15.)**—ALFRED LUCKIN, Orfold, Wisborough Green, Sussex, for 64234 **Orfold Barrington Duchess 2nd,** red and little white, born Oct. 4, 1924, calved May 28, 1929; *s.* Orfold Linksman 2nd 150892, *d.* Loobagh Barrington Duchess 5th *by* Loobagh Duke 126555.
1237 **II. (£10.)**—G. P. GOLDEN, Leire, Lutterworth, for 73942 **Lady Doreen 7th,** red, born April 25, 1925, calved June 1, 1929; *s.* Lord Leicester 20th 182715, *d.* 36760 Lady Doreen 9th *by* Lord Leicester 9th 164968.
1202 **III. (£5.)**—G. W. ISHERWOOD, Edge Fold, Entwistle, near Bolton, for 50207 **Kelmscott Primula 189th,** roan, born Dec. 29, 1923, calved June 12, 1929, bred by R. W. Hobbs & Sons, Kelmscott, Lechlade; *s.* Creme de Menthe 119683, *d.* Primula 175th *by* Dairy Prince 114977.
1217 **IV. (£4.)**—SIR WILLIAM HICKING, BART., for **Overpeover Fragrance.** (See Class 146.)
1185 **V. (£3.)**—DEBENHAM & TORY, Anderson, Blandford, for 43543 **Anderson Red Rose 2nd,** roan, born May 21, 1922, calved May 22, 1929, bred by Robert N. Tory, Anderson; *s.* Kelmscott Conjuror 3rd 137269, *d.* Red Rose of Puddington *by* Salmon's Freemason 100526.
1215 **R. N.**—SIR WILLIAM HICKING, BART., for **Martley Barrington.**

Class 214.—*Lincolnshire Red Shorthorn Cows or Heifers.*

1307 **I. (£15.)**—B. G. BOWSER, for **Soothern Jessie 6th.** (See Class 152.)
1317 **II. (£10.)**—RUSSELL WOOD, for **Bendish Sunbeam 6th** (Vol. 28, p. 297), born Dec. 20, 1921, calved June 23, 1929, bred by Stanley Blundell, Green Gore, Sussex; *s.* Bendish Seaman 7th 15814, *d.* Bendish Sunbeam 4th *by* King of the Burtons 10020.
1309 **III. (£5.)**—JOHN EVENS & SON, for **Burton Jewess 5th.** (See Class 152.)
1316 **IV. (£4.)**—RUSSELL WOOD, for **Bendish Pansy 8th.** (See Class 153.)
1314 **R. N.**—JOHN EVENS & SON, for **Burton Fillpail 7th.**

Class 215.—*South Devon Cows or Heifers.*

1339 **I. (£15.)**—WALTER HUNT, for **Empress.** (See Class 159.)
1342 **II. (£10.)**—JOHN WAKEHAM, for **Pearl 3rd.** (See Class 159.)

Class 216.—*Red Poll Cows or Heifers.*

1395 **I. (£15.)**—MRS. R. M. FOOT, White Hill, Berkhamsted, for 33536 **Basildon Rosemary 2nd,** born Feb. 18, 1924, calved April 30, 1929, bred by Major J. A. Morrison, D.S.O., Basildon Park, Goring, Reading; *s.* Hanningfield Conductor 12646, *d.* 28491 Basildon Rosebloom *by* Sudbourne Miner 11492.

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[1] Silver Challenge Cup given by the Dexter Cattle Society for the best Dexter.

[2] Silver Challenge Breeders' Bowl given through the Dexter Cattle Society for the best Dexter, which is already registered in the Dexter Herd Book, and is the progeny of sire and dam already registered.

[3] Prizes given by the Dexter Cattle Society.

1380 **II.** (**£10.**)—VISCOUNT FOLKESTONE, for **Longford Symphony.** (See Class 164.)
1374 **III.** (**£5.**)—SIR MERRIK R. BURRELL, BART., C.B.E., for **Knepp Lilac 6th.** (See Class 164.)
1378 **IV.** (**£4.**)—MAJOR J. G. DUGDALE, D.S.O., The Abbey, Cirencester, for 29000 **Kirton Sophie,** born May 21, 1920, calved June 2, 1929, bred by W. F. Paul, Kirton, Ipswich; *s.* Stratford 11200, *d.* 24677 Kirton Stock *by* Kirton King 10306.
1394 **V.** (**£3.**)—VISCOUNT FOLKESTONE, for **Longford Columbine 2nd.** (See Class 165.)
1387 **R. N.**—CAPT. ALAN RICHARDSON, Seven Springs, Cheltenham, for **Seven Springs Quest.**
H. C.—1377, 1379, 1393.

Class 217.—*Blue Albion Cows or Heifers.*

1457 **I.** (**£15.**)—T. H. SWIRE & SONS, for **Park Rose.** (See Class 171.)
1454 **II.** (**£10.**)—R. H. A. HOLBECH, for **Seagry Melody.** (See Class 171.)

Class 218.—*British Friesian Cows or Heifers.*

1528 **I.** (**£15, & Champion.**[1])—EDWARD G. BARTON, Saundby, Retford, Notts, **Chaddesley Hedge Rose 2nd** 69470, born April 16, 1923, calved June 2, 1929, bred by J. H. Bean, Chaddesley Corbett, Kidderminster; *s.* Chaddesley Comrade 13497, *d.* ChaddesleyHedge Rose 43954 *by* Glenanne Pioneer 7923.
1529 **II.** (**£10, & R. N. for Champion.**[1])—MAJOR C. F. CASE, Cockthorpe, Wells, Norfolk, for **Blickling Mist** 68692, born Sept. 6, 1923, calved March 15, 1929, bred by T. H. Case, Blickling, Aylsham; *s.* Beccles Paddy 16041, *d.* Blickling Dewdrop 50782 *by* Beccles Victory 9063.
1532 **III.** (**£5.**)—F. W. GILBERT, for **Hache Amethyst.** (See Class 179.)
1545 **IV.** (**£4.**)—WILLIAM CURTIS & SON, for **Ranfurly Mattie.** (See Class 180.)
1530 **V.** (**£3.**)—CAPT. JOHN CHRISTIE, M.C., for **Homestall Disley.** (See Class 179.)

Class 219.—*Ayrshire Cows or Heifers.*

1653 **I.** (**£15, & Champion.**[2])—DAVID WALLACE, for **Auchenbrain Big Kate 18th.** (See Class 187A.)
1631 **II.** (**£10, & R. N. for Champion.**[2])—FRANK BARKER, Home Farm, Bretton, Wakefield, for **Hall Flora** 82985, born April 8, 1922, calved June 10, 1929, bred by Messrs. Williamson, Hall, Kirkconnel; *s.* Haughyett Perfecto 10174, *d.* Hall Beatrice 82974 *by* Low Milton Jovial Monk 15300.
1635 **III.** (**£5.**)—JOHN N. DRUMMOND, Bargower, Hurlford, Ayrshire, for **Bargower Silver Bell 5th** 97396, born March 5, 1924, calved June 16, 1929; *s.* Corsehill Happy Man 23104, *d.* Bargower Silver Bell 2nd 69403 *by* Howie's Good Luck 15281.
1644 **IV.** (**£4.**)—COMDR. E. W. LEAKE, Hollybush House, Hollybush, Ayrshire, for **Dalgig Lily 3rd** 86639, born March 20, 1925, calved June 17, 1929, bred by Jacob S. Murray, Dalgig, New Cumnock; *s.* Dalgig King George 25804, *d.* Dalgig Lily 86639 *by* Muir General French 14573.
1645 **V.** (**£3.**)—ALEXANDER McFARLANE, for **Burnside White Queen.** (See Class 187A.)
1636 **R. N.**—WILLIAM L. FERGUSON, East Cairnweil, Sandhead, Stranraer, for **Cattlins Pearl.**

Class 220.—*Guernsey Cows or Heifers.*

1696 **I.** (**£15.**)—GEORGE BLIGHT, Tregonning, Breage, Helston, for **Jane of Tregonning 7th** 18703, yellow and white, born April 30, 1923, calved May 2, 1929; *s.* Puddington Toreador 4296, *d.* Tregonning Jane 3rd 14816 *by* Hammill of Marazion 3334.
1698 **II.** (**£10.**)—W. DUNKELS, for **Fernhill Rose.** (See Class 192.)

Class 221.—*Jersey Cows or Heifers.*

1700 **I.** (**£15.**)—SIR HAROLD MACKINTOSH, Conyngham Hall, Knaresborough, for **Lydia** (Vol. 34, p. 374), whole colour, born Nov. 13, 1922, calved March 28, 1929, bred by the Ladies E. and D. Hope, South Park, Bodiam, Sussex; *s.* Cowdray Dairyman 13520, *d.* Libonia 15th *by* Highlander 12027.
1802 **II.** (**£10.**)—CORTLANDT TAYLOR, for **Nobody's Pet.** (See Class 190.)
1788 **III.** (**£5.**)—SIR HAROLD MACKINTOSH, for **Flotsam Twin** 4857, whole colour, born Jan. 8, 1923, calved May 14, 1929, bred by J. P. Rondel, St. John's, Jersey; *s.* Observer 13682, *d.* Flotsam (11045) F.S.H.C.
1794 **IV.** (**£4.**)—J. PIERPONT MORGAN, Wall Hall, Watford, for **Nona** 6840, whole colour, born April 21, 1925, calved May 5, 1929, bred by P. Le Brun, St. Lawrence, Jersey; *s.* Lily Light's Oxford 15047A, *d.* Florence Days Sybil 2nd (31704) *by* Forward 13937.
1814 **V.** (**£3.**)—MRS. E. K. STAINES, Hook Farm, Leigh, Reigate, for **Sultan's Una,** whole colour, born May 22, 1926, calved May 10, 1929, bred by Mrs. A. F. Hayes Sadler, Horne Court, Horley; *s.* Hamlet's Sultan 15514, *d.* Bachaaderies Una 2nd *by* Theresa's Conscript 14806.

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[1] Champion Prize of £30 with £5 to the Reserve Number, given by a Society interested in the production of milk for the Cows obtaining the highest number of points in the Dairy Shorthorn, Lincolnshire Red Shorthorn, South Devon, Red Poll, Blue Albion, and British Friesian Milk Yield Competitions.

[2] Champion Prize of £20, with £5 to the Reserve Number, given by a Society interested in the production of milk for the Cows obtaining the highest number of points in the Ayrshire, Guernsey and Jersey Milk Yield Competitions.

Class 222.—*Kerry Cows or Heifers.*

1868 I. (£15, Champion,[1] & Champion.[2])—Capt. Nelson Zambra and C. Williamson Milne, for **Hattingley Belle.** (See Class 205.)
1866 II. (£10, R. N. for Champion,[1] & R. N. for Champion.[2])—John William Towler, Wadlands Hall, Farsley, Leeds, for **Wadlands Clover** 3477, born May 31, 1921, calved May 10, 1929; *s.* Vaddy Trentino 459, *d.* Wyresdale Clover 1530 F.S.
1865 III. (£5.)—John William Towler, for **Vaddy Trent 4th.** (See Class 205.)
1858 R. N.—T. F. Adamson, High Berrys, Ripon, for **Wadlands Waterville.**
H. C.—1867.

Class 223.—*Dexter Cows or Heifers.*

1898 I. (£15, & Champion.[3])—Lady Lodge, for **Grinstead Convolvulus.** (See Class 210.)
1893 II. (£10, & R. N. for Champion.[3])—Miss Dora Box, Darlingscote, Shipston-on-Stour, for **Wightwick Dolly 2nd** 4042, born June 2, 1925, calved May 11, 1929; *s.* Wightwick Prince 899, *d.* Wightwick Dolly 3205 *by* Oakridge Pat 673.

Butter Tests.

Class 224A.—*Cows exceeding* 900 *lb. live weight.*

1528 I. (£15.)—Edward G. Barton, for **Chaddesley Hedge Rose 2nd.** (See Class 218.)
1529 II. (£10.)—Major C. F. Case, for **Blickling Mist.** (See Class 218.)
1339 III. (£5.)—Walter Hunt, for **Empress.** (See Class 159.)
1307 IV. (£4.)—B. G. Bowser, for **Scothern Jessie 6th.** (See Class 152.)
1317 V. (£3.)—Russell Wood, for **Bendish Sunbeam 6th.** (See Class 214.)
1696 R. N.—George Blight, for **Jane of Tregonning 7th.** (See Class 220.)
1790 Gold Medal.[4]—Sir Harold Mackintosh, for **Lydia.** (See Class 221.)

Class 224B.—*Cows not exceeding* 900 *lb. live weight.*

1802 I. (£15.)—Cortlandt Taylor, for **Nobody's Pet.** (See Class 199.)
1814 II. (£10.)—Mrs. E. K. Staines, for **Sultan's Una.** (See Class 221.)

GOATS.[5]

Class 225.—*Toggenburg or British Toggenburg Female Goats, in-milk, any age.*

1920 I. (£5.)—Mrs. Morcom, The Clock House, Bromsgrove, for **Ciceter Quince** 6893, British Toggenburg, born Jan. 18, 1925, kidded Feb. 26, 1929, bred by Countess Bathurst, Cirencester; *s.* Rayleigh Humourist 5421, *d.* Berones 516.
1916 II. (£3, & Champion.[6])—Misses Window Harrison, Yew Tree Poultry Farm, North Weald, Essex, for **Sandhill Nerine** 574, Toggenburg, born Feb. 25, 1924, kidded Feb. 28, 1929, bred by J. Kidman, Rippington Manor, Royston; *s.* Carpentier 528, *d.* Leazes Saleswoman 457 *by* Sandhill Ibex 404.
1917 III. (£2, & R. N. for Champion.[6])—Miss Marjorie Henderson, The Riding, Hexham, for **Riding Cilla** 622, Toggenburg, born June 3, 1926, kidded April 8, 1929; *s.* Ciceter Polycarp 561, *d.* Riding Crocus 367 *by* Sedgemere Paris 2nd 292.
1919 R. N.—Mrs. Morcom, for **Ciceter Nicotiana.**
H. C.—1913. C.—1915.

Class 226.—*Saanen or British Saanen Female Goats, in-milk, any age.*

1932 I. (£5.)—Miss K. Pelly, Theydon Place, Epping, for **Broxbourne Lady May** 8456, British Saanen, born March 3, 1927, kidded Feb. 6, 1929, bred by H. E. Hughes, Broxbourne, Herts; *s.* Broxbourne Gold 62, *d.* Broxbourne Fairy May 3301 *by* Leazes Hackle 372.
1923 II. (£3, & Champion.[7])—Mrs. Arthur Abbey, Didgemere Hall, Roydon, Essex, for **Broxbourne Blanche** 101, Saanen, born March 7, 1927, kidded March 3, 1929, bred by H. E. Hughes, Broxbourne, Herts; *s.* Broxbourne Gold 62, *d.* Broxbourne Jane 91 *by* Gulden 37.

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[1] Champion Prize of £10, with £5 to the Reserve Number, given by a Society interested in the production of milk for the Cows obtaining the highest number of points in the Kerry and Dexter Milk Yield Competitions.

[2] The "Elmhurst" Perpetual Silver Challenge Cup given by the British Kerry Cattle Society for the Kerry Cow gaining the highest number of points.

[3] Perpetual Silver Challenge Cup given by the Dexter Cattle Society for the Dexter Cow gaining the highest number of points.

[4] Gold Medal (or £10 in money) given by the English Jersey Cattle Society for the Jersey Cow obtaining the greatest number of points in the Butter Tests.

[5] £30 towards these prizes were given by the British Goat Society.

[6] Breed Challenge Certificate given by the British Goat Society for the best Toggenburg Female Goat, over 2 years old.

[7] Breed Challenge Certificate given by the British Goat Society for the best Saanen Female Goat, over 2 years old.

1922 **III. (£2, & R. N. for Champion.[1])**—Mrs. Arthur Abbey, for **Broxbourne Barbara** 100, Saanen, born March 7, 1927, kidded March 2, 1929, bred by H. E. Hughes, Broxbourne, Herts; *s.* Broxbourne Gold 62, *d.* Broxbourne Jane 91 *by* Gulden 37.

1927 **IV. (£1.)**—Miss Cecily Booth, Yorecroft, Ripon, for **Springfield Unity** 6370, British Saanen, born Feb. 13, 1924, kidded March 11, 1929; *s.* Feltham Seigfried 41, *d.* Atherstone Collette 4741 *by* Prophet of Bashley 3775.

1924 **R. N.**—Miss Cecily Booth, for **Atherstone Collette.**

H. C.—1930. **C.**—1928.

Class 227.—*Anglo-Nubian Female Goats, in-milk, any age.*

1935 **I. (£5, & Champion.[2])**—Miss K. Pelly, Theydon Place, Epping, for **Theydon Almeda** 1766, born April 6, 1926, kidded March 27, 1929; *s.* Theydon Banjo 1574, *d.* Theydon Almond 1444 *by* Edenbreck Klito 947.

1937 **II. (£3, & R. N. for Champion.[2])**—Miss K. Pelly, for **Theydon Barbarette** 1802, born Feb. 17, 1927, kidded Feb. 4, 1929; *s.* Herne Bay President 1553, *d.* Wrentham Barbara 1635 *by* Sadberge Marcus Coriolanus 1003.

1933 **III. (£2.)**—Mrs. H. G. Hendy, Etherley, Bishop Auckland, for **Etherley Snowdrop** 1747, born March 2, 1926, kidded April 15, 1929; *s.* Theydon Banjo 1574, *d.* Theydon Tilda 1163 *by* Sadberge Marcus Coriolanus 1003.

1940 **IV. (£1.)**—B. Z. Wright, Hoveton St. John, Wroxham, Norfolk, for **Hoveton Begonia** 1792, born Jan. 20, 1927, kidded Feb. 12, 1929; *s.* Hoveton Fumitory 1736, *d.* Benacre Bride 1690 *by* Theydon Banjo 1574.

Class 228.—*British Alpine Female Goats, in-milk, any age.*

1944 **I. (£5, Champion,[3] & Champion.[4])**—Mrs. Arthur Abbey, Didgemere Hall, Roydon, Essex, for **Didgemere Delysia** 7714, born March 6, 1926, kidded April 12, 1929; *s.* Didgemere Daniel 5955, *d.* Didgemere Dusky 5083 *by* Prophet of Bashley 3075.

1947 **II. (£3, R. N. for Champion,[3] & R. N. for Champion.[4])**—Miss C. Chamberlain, Westons, Lyndhurst, Hants, for **Whimsical of Westons** 7051, born March 26, 1925, kidded Feb. 23, 1929; *s.* Didgemere Dictator 6816, *d.* Wistful of Westons 4641 *by* Edenstead Pluck 3007.

1946 **III. (£2.)**—Mrs. Arthur Abbey, for **Didgemere Diploma** 7728, born June 8, 1926, kidded April 8, 1929; *s.* Prophet of Bashley 3775, *d.* Didgemere Dogrose 6410 *by* Didgemere Daniel 5955.

1943 **R. N.**—Mrs. Arthur Abbey, for **Didgemere Delia.**

Class 229.—*Female Goats, in-milk, any age, any other variety.*

1960 **I. (£5.)**—Miss Pope, Bashley Lodge, New Milton, Hants, for **Proverb of Bashley** 6932, British, born March 11, 1925, kidded Feb. 18, 1929; *s.* Ridgeway Rumpelstiltskin 6536, *d.* Paradox of Bashley 6424.

1956 **II. (£3.)**—Mrs. H. G. Hendy, Etherley, Bishop Auckland, for **Etherley Cherry Pie** 7514, British, born March 7, 1926, kidded March 27, 1929; *s.* Garcon 33, *d.* Sadberge Goose 6300 *by* Edenbreck Marcus 933.

1952 **III. (£2.)**—Miss Alexander, Byards Lodge, Knaresborough, for **Stockwell Tyclette** 7041, British, born Feb. 22, 1925, kidded Nov. 8, 1928; *s.* Widbury Sultan 5381, *d.* Stockwell Tyke *by* Stockwell Grange 4566.

1951 **IV. (£1.)**—Mrs. Arthur Abbey, Didgemere Hall, Roydon, Essex, for **Didgemere Dixie** 7162, British, born May 19, 1925, kidded March 3, 1929; *s.* Didgemere Duncan 5556, *d.* Didgemere Dream 5967 *by* Prophet of Bashley 3775.

1958 **R. N.**—Mrs. Morcom, The Clock House, Bromsgrove, for **Cornish Witch.**

H. C.—1957. **C.**—1959.

Class 230.—*Toggenburg, British Toggenburg, Saanen or British Saanen Goatlings, over 1 but not exceeding 2 years old.*

1969 **I. (£5.)**—Miss C. Chamberlain, Westons, Lyndhurst, Hants, for **Whizz of Westons** 8528, British Saanen, born March 9, 1928; *s.* Wordsworth of Westons 7967, *d.* Wistful of Westons 4641 *by* Edenstead Pluck 3007.

1971 **II. (£3.)**—Miss Mostyn Owen, Belmont, Starbeck, Harrogate, for **Mostyn Marigold** 8650, British Saanen, born Feb. 15, 1928, bred by Mrs. Mostyn Owen, Belmont; *s.* Didgemere Aristocrat 8207, *d.* Classic Pandora 1st 4891 *by* Prophet of Bashley 3775.

1972 **III. (£2.)**—Miss Mostyn Owen, for **Mostyn Meadowsweet** 8652, British Saanen, born March 13, 1928, bred by Mrs. Mostyn Owen, Belmont; *s.* Didgemere Aristocrat 8207, *d.* Didgemere Dorothy 6414 *by* Didgemere Daniel 5955.

1963 **IV. (£1.)**—Miss Cecily Booth, Yorecroft, Ripon, for **Springfield Vivette** 106, Saanen, born March 11, 1928; *s.* Broxbourne Gold 62, *d.* Springfield Vivacity 65 *by* Gulden 37.

1962 **V. (10s.)**—Miss Cecily Booth, for **Springfield Lynette** 105, Saanen, born March 4, 1928; *s.* Broxbourne Gold 62, *d.* Springfield Lealty 73 *by* Gulden 37.

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[1] Breed Challenge Certificate given by the British Goat Society for the best Saanen Female Goat, over 2 years old.

[2] Breed Challenge Certificate given by the British Goat Society for the best Anglo-Nubian Female Goat, over 2 years old.

[3] Bronze Medal given by the British Goat Society for the best Female Goat.

[4] Challenge Certificate given by the British Goat Society for the best Female Goat over 2 years old that has borne a kid.

1964 **R. N.**—Miss Cecily Booth, for **Springfield Unicita** 8516, British Saanen, born Feb. 11, 1928; *s.* Broxbourne Gold 62, *d.* Springfield Unity 6370 *by* Feltham Seigfried 41.
H. C.—1961. **C.**—1970.

Class 231.—*Anglo-Nubian Goatlings, over 1 but not exceeding 2 years old.*

1980 **I. (£5, & R. N. for Champion.**[1]**)**—B. Z. Wright, Hoveton St. John, Wroxham, Norfolk, for **Hoveton Tulip** 1863, born March 4, 1928; *s.* Theydon Bertrano 1725, *d.* Rushmere Tabaquite 1493 *by* Theydon Angus 1136.
1974 **II. (£3.)**—Mrs. H. G. Hendy, Etherley, Bishop Auckland, for **Etherley Dawn** 1922, born Jan. 27, 1928; *s.* Etherley Jock 1746, *d.* Etherley Heather 6361 *by* Theydon Michael 1488.
1979 **III. (£2.)**—B. Z. Wright, for **Hoveton Foxgloven** 1860, born Feb. 11, 1928; *s.* Theydon Bertrano 1725, *d.* Hoveton Fenugreek 1618 *by* Nash Rufus 1450.
1977 **R. N.**—Miss K. Pelly, Theydon Place, Epping, for **Theydon Belita.**
H. C.—1976. **C.**—1975.

Class 232.—*Goatlings, any other variety, over 1 but not exceeding 2 years old.*

1981 **I. (£5, & Champion.**[1]**)**—Mrs. Arthur Abbey, Didgemere Hall, Roydon, Essex, for **Didgemere Dulcimer** 8833, British Alpine, born March 4, 1928; *s.* Didgemere Duncan 5556, *d.* Didgemere Dulcette 5956 *by* Ridgeway Rama.
1985 **II. (£3.)**—Miss Pope, Bashley Lodge, New Milton, Hants, for **Proof of Bashley** 8487, British, born Jan. 31, 1928; *s.* Feltham Asterus 8117, *d.* Problem of Bashley 3076.
1982 **III. (£2.)**—Mrs. Arthur Abbey, for **Didgemere Dena** 8837, British Alpine, born March 5, 1928; *s.* Didgemere Doctor 8436, *d.* Didgemere Dinah 7709 *by* Didgemere Daniel 5955.
1984 **R. N.**—N. Cradock, Sandhutton, Thirsk, for **Sandhutton Tabitha.**
H. C.—1983. **C.**—1987.

Class 233.—*Female Kids, any Variety, not over 1 year old.*

2004 **I. (£5.)**—B. Z. Wright, Hoveton St. John, Wroxham, Norfolk, for **Hoveton Foxbane,** 1932, Anglo-Nubian, born Feb. 11, 1929; *s.* Theydon Bertrano 1725, *d.* Hoveton Fritillary 1619 *by* Nash Rufus 1450.
1995 **II. (£3.)**—Miss C. Chamberlain, Westons, Lyndhurst, Hants, for **Wellbeing of Westons** 9013, British Saanen, born March 1, 1929; *s.* Springfield Count 8514, *d.* Welfare of Westons 4640 *by* Proud 2853.
2000 **III. (£2.)**—Miss Mostyn Owen, Belmont, Starbeck, Harrogate, for **Mostyn Mezzo** 9042, British Saanen, born Jan. 15, 1929; *s.* Didgemere Aristocrat 8207, *d.* Mostyn Music 8058 *by* Didgemere Robert 7713.
1999 **IV. (£1.)**—Miss Mostyn Owen, for **Mostyn Mandoline** 9040, British Saanen, born Jan. 15, 1929; *s.* Didgemere Aristocrat 8207, *d.* Mostyn Music 8058 *by* Didgemere Robert 7713.
1997 **V. (10s.)**—Mrs. Hendy, Etherley, Bishop Auckland, for **Etherley Coquette** 1927, Anglo-Nubian, born Jan. 14, 1929; *s.* Hoveton Fumitory 1736, *d.* Sadberge Cockatoo 1529 *by* Sadberge Alexander 1243.
1990 **R. N.**—Miss Alexander, Byards Lodge, Knaresborough, for **Stockwell Corinne.**
H. C.—1991. **C.**—1994.

Milk Yield Classes.

Class 234.—*Milk Yield Class, Quality, open to animals entered in Classes 225 to 229.*

1951 **I. (£5, Champion,**[2] **Champion,**[3] **&, with 1981, Champion.**[4]**)**—Mrs. Arthur Abbey, for **Didgemere Dixie.** (See Class 229.)
1943 **II. (£3, Champion,**[5] **& R. N. for Champion.**[3]**)**—Mrs. Arthur Abbey, for **Didgemere Delia** 6409, born March 1, 1924, kidded March 18, 1929; *s.* Didgemere Daniel 5955, *d.* Didgemere Delilah 5553 *by* Prophet of Bashley 3775.
1927 **III. (£2.)**—Miss Cecily Booth, for **Springfield Unity.** (See Class 226.)
1956 **IV. (£1.)**—Mrs. H. G. Hendy, for **Etherley Cherry Pie.** (See Class 229.)
1947 **V. (10s., R. N. for Champion,**[2] **with 1969, R. N. for Champion,**[4] **& R. N. for Champion**[5]**).**—Miss C. Chamberlain, for **Whimsical of Westons.** (See Class 228.)

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[1] Bronze Medal given by the British Goat Society for the best Goatling.

[2] Challenge Certificate given by the British Goat Society for the best Dual Purpose Goat.

[3] The "Dewar" Challenge Trophy, given through the British Goat Society for the Goat entered in either the General or the Toggenburg section of the Society's Herd Book winning the highest number of points in the Milking Classes.

[4] The "Dewar" Cup given through the British Goat Society for the exhibitor showing a Female Goat in-milk, and a Goatling, under certain conditions.

[5] The "Abbey" Cup given through the British Goat Society for the British Alpine Goat gaining the highest number of points in Inspection and Milking. The goat must be bred by exhibitor, entered in the British Alpine section of the Herd Book, and have obtained an award in the Inspection Class.

1946 **R. N.**—Mrs. Arthur Abbey, for **Didgemere Diploma.**
H. C.—1922, 1932, 1933, 1944, 1959, 1960. **C.**—1923, 1930, 1935, 1952, 1954, 1955.
1933 **Cup.**[1]—Mrs. H. G. Hendy, for **Etherley Snowdrop.** (See Class 227.)
1935 **R. N. for Cup.**[1]—Miss K. Pelly, for **Theydon Almeda.** (See Class 227.)

Class 235.—*Milk Yield Class, Quantity, open to animals entered in Classes 225 to 229.*

1951 **I.** (£5.)—Mrs. Arthur Abbey, for **Didgemere Dixie.** (See Class 229.)
1943 **II.** (£3.)—Mrs. Arthur Abbey, for **Didgemere Delia.** (See Class 234.)
1946 **III.** (£2.)—Mrs. Arthur Abbey, for **Didgemere Diploma.** (See Class 228.)
1947 **IV.** (£1.)—Miss C. Chamberlain, for **Whimsical of Westons.** (See Class 228.)
1927 **V.** (10s.)—Miss Cecily Booth, for **Springfield Unity.** (See Class 226.)
1959 **R. N.**—Miss Pope, for **Pleader of Bashley.**
H. C.—1923, 1932, 1944, 1956, 1960. **C.**—1913, 1915, 1922, 1930, 1931, 1933, 1954.

SHEEP.

Oxford Downs.

Class 236.—*Oxford Down Shearling Rams.*

2011 **I.** (£10, **Champion,**[2] & **Champion**[3]), 2012 **II.** (£5, & **R. N. for Champion**[2]), 2013 **III.** (£3), and 2010 **R. N.**—Hugh William Stilgoe, The Grounds, Adderbury, Banbury.
2008 **IV.** (£2.)—W. H. Hitch, Elkstone Manor, Cheltenham.
H. C.—2005.

Class 237.—*Oxford Down Ram Lambs.*

2020 **I.** (£10.)—Hugh William Stilgoe, The Grounds, Adderbury, Banbury.
2015 **II.** (£5), and 2016 **R. N.**—E. G. Clifford, Manley Farm, Quenington, Cirencester.
2021 **III.** (£3.)—William F. G. Watts, Elsfield, Oxford.
H. C.—2014. **C.**—2017, 2018.

Class 238.—*Three Oxford Down Ram Lambs.*

2029 **I.** (£10.)—William F. G. Watts, Elsfield, Oxford.
2028 **II.** (£5.)—Hugh William Stilgoe, The Grounds, Adderbury, Banbury.
2023 **III.** (£3.)—E. G. Clifford, Manley Farm, Quenington, Cirencester.
2022 **R. N.**—Lawrence B. Akers, Litchfield Farm, Enstone, Oxford.
H. C.—2024. **C.**—2025.

Class 239.—*Three Oxford Down Shearling Ewes.*

2032 **I.** (£10, **Champion,**[4] & **R. N. for Champion.**[3])—Hugh William Stilgoe, The Grounds, Adderbury, Banbury.
2031 **II.** (£5, & **R. N. for Champion.**[4])—W. H. Hitch, Elkstone Manor, Cheltenham.
2030 **III.** (£3.)—E. G. Clifford, Manley Farm, Quenington, Cirencester.
2033 **R. N.**—William F. G. Watts, Elsfield, Oxford.

Class 240.—*Three Oxford Down Ewe Lambs.*

2036 **I.** (£10.)—Major R. F. Fuller, Great Chalfield, Melksham, Wilts.
2035 **II.** (£5.)—E. G. Clifford, Manley Farm, Quenington, Cirencester.
2034 **III.** (£3.)—Lawrence B. Akers, Litchfield Farm, Enstone, Oxford.
2040 **R. N.**—William F. G. Watts, Elsfield, Oxford.
H. C.—2037. **C.**—2039.

Shropshires.

Class 241.—*Shropshire Two Shear Rams.*

2042 **I.** (£10, & **R. N. for Champion.**[5])—Thomas A. Buttar, Corston, Coupar Angus, for **Corston Hamlet.**
2041 **II.** (£5.)—Capt. F. B. F. Bibby, Hardwicke Grange, Shrewsbury, for **Hardwicke Brutus.**

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[1] The "Pomeroy" Challenge Cup given through the British Goat Society for the best Anglo-Nubian entered in the Anglo-Nubian section of the Society's Herd Book winning the highest number of points in the Milking Classes.

[2] The "Chalfield" Silver Challenge Cup given through the Oxford Down Sheep Breeders' Association for the best Male exhibit.

[3] The "Heythrop" Silver Challenge Cup given through the Oxford Down Sheep Breeders' Association, for the best exhibit.

[4] The "Great Rissington" Silver Challenge Cup given through the Oxford Down Sheep Breeders' Association for the best Female exhibit.

[5] Champion Silver Medal given by the Shropshire Sheep Breeders' Association for the best Ram in Classes 241 and 242.

2046 **III.** (£3.)—John Minton, Dryton, Wroxeter, Shrewsbury, for **Dryton Justice.**
2043 **R. N.**—Thomas A. Buttar, for **Corston Royal Notts.**

Class 242.—*Shropshire Shearling Rams.*

2048 **I.** (£10, & **Champion.**[1])—Capt. F. B. F. Bibby, Hardwicke Grange, Shrewsbury.
2058 **II.** (£5), and 2059 **III.** (£3.)—E. Craig Tanner, Eyton-on-Severn, Wroxeter, Shrewsbury.
2055 **IV.** (£2.)—N. J. Nunnerley, Tern Hill House, Market Drayton.
2052 **V.** (£1.)—William Everall, Shrawardine Castle, Shrewsbury.
2050 **R. N.**—Thomas A. Buttar, Corston, Coupar Angus.

Class 243.—*Three Shropshire Shearling Rams.*[2]

2067 **I.** (£10.)—N. J. Nunnerley, Tern Hill House, Market Drayton.
2065 **II.** (£5.)—Mrs. Inge, Thorpe, Tamworth.
2069 **III.** (£3.)—E. Craig Tanner, Eyton-on-Severn, Wroxeter, Shrewsbury.
2064 **IV.** (£2.)—William Everall, Shrawardine Castle, Shrewsbury.
2063 **R. N.**—Thomas A. Buttar, Corston, Coupar Angus.
H. C.—2066.

Class 244.—*Three Shropshire Ram Lambs.*

2075 **I.** (£10.)—Major J. N. Ritchie, Tern, Wellington Shropshire.
2074 **II.** (£5.)—N. J. Nunnerley, Tern Hill House, Market Drayton.
2076 **III.** (£3.)—E. Craig Tanner, Eyton-on-Severn, Wroxeter, Shrewsbury.
2071 **R. N.**—William Everall, Shrawardine Castle, Shrewsbury.

Class 245.—*Three Shropshire Shearling Ewes.*

2077 **I.** (£10.)—Capt. F. B. F. Bibby, Hardwicke Grange, Shrewsbury.
2078 **II.** (£5), and 2079 **III.** (£3.)—Mrs. Inge, Thorpe, Tamworth.
2081 **R. N.**—Major C. J. H. Wheatley, Berkswell Hall, Berkswell, Warwickshire.

Class 246.—*Three Shropshire Ewe Lambs.*

2086 **I.** (£10.)—Major J. N. Ritchie, Tern, Wellington, Shropshire.
2082 **II.** (£5.)—William Everall, Shrawardine Castle, Shrewsbury.
2083 **III.** (£3.)—Mrs. Inge, Thorpe, Tamworth.
2084 **R. N.**—John Minton, Dryton, Wroxeter, Shrewsbury.
H. C.—2087.

Southdowns.

Class 247.—*Southdown Two Shear Rams.*

2093 **I.** (£10, **Champion,**[3] & **Champion.**[4])—Lady Ludlow, Luton Hoo, Luton, for **Luton Hoo 64 of 1927** 18623.
2090 **II.** (£5.)—Lady Fitzgerald, Buckland, Faringdon, for **Buckland 130 of 1927.**
2091 **III.** (£3)—Lady Fitzgerald, for **Buckland 233 of 1927.**
2089 **IV.** (£2.)—Sir Jeremiah Colman, Bart., Gatton Park, Surrey, for **Gatton Park E. 175** 18180.
2096 **R. N.**—The Hon. Mrs. Bruce Ward, Godinton, Ashford, Kent, for **Godinton 41 of 1927.**

Class 248.—*Southdown Shearling Rams.*

2102 **I.** (£10, **R. N. for Champion,**[3] & **R. N. for Champion.**[4])—Lady Fitzgerald, Buckland Faringdon.
2104 **II.** (£5), and 2105 **V.** (£1.)—John Langmead, Northwood, Ford, Arundel.
2106 **III.** (£3.)—Lady Ludlow, Luton Hoo, Luton.
2101 **IV.** (£2.)—Sir Jeremiah Colman, Bart., Gatton Park, Surrey.
2108 **R. N.**—J. Pierpont Morgan, Wall Hall, Watford.
H. C.—2097, 2112.

Class 249.—*Three Southdown Shearling Rams.*[5]

2121 **I.** (£10.)—J. Pierpont Morgan, Wall Hall, Watford.
2119 **II.** (£5.)—John Langmead, Northwood, Ford, Arundel.
2120 **III.** (£3.)—Lady Ludlow, Luton Hoo, Luton.

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[1] Champion Silver Medal given by the Shropshire Sheep Breeders' Association for the best Ram in Classes 241 and 242.

[2] Prizes, except Fourth, given by the Shropshire Sheep Breeders' Association.

[3] Champion Gold Medal, or £10 10*s.* in cash, given by the Southdown Sheep Society for the best Ram in Classes 247 and 248.

[4] The "Northumberland" Perpetual Silver Challenge Cup given through the Southdown Sheep Society for the best exhibit.

[5] Prizes, except Fourth, given by the Southdown Sheep Society.

2114 **IV. (£2.)**—His Majesty the King, Sandringham.
2116 **R. N.**—Sir Jeremiah Colman, Bart., Gatton Park, Surrey.
C.—2122.

Class 250.—*Three Southdown Ram Lambs.*

2127 **I. (£10.)**—Lady Fitzgerald, Buckland, Faringdon.
2125 **II. (£5.)**—Sir Jeremiah Colman, Bart., Gatton Park, Surrey.
2129 **III. (£3.)**—John Langmead, Northwood, Ford, Arundel.
2135 **IV. (£2.)**—The Hon. Mrs. Bruce Ward, Godinton, Ashford, Kent.
2126 **V. (£1.)**—The Earl of Derby, K.G., Hatchfield Farm, Newmarket.
2124 **R. N.**—His Majesty the King, Sandringham.
H. C.—2133. C.—2130, 2131, 2134.

Class 251.—*Three Southdown Shearling Ewes.*

2140 **I. (£10, & Champion.[1])**—Lady Ludlow, Luton Hoo, Luton.
2141 **II. (£5, & R. N. for Champion.[1])**—J. Pierpont Morgan, Wall Hall, Watford.
2138 **III. (£3.)**—Sir Jeremiah Colman, Bart., Gatton Park, Surrey.
2143 **R. N.**—The Hon. Mrs. Bruce Ward, Godinton, Ashford, Kent.
H. C.—2136, 2137.

Class 252.—*Three Southdown Ewe Lambs.*

2147 **I. (£10.)**—Lady Fitzgerald, Buckland, Faringdon.
2150 **II. (£5.)**—J. Pierpont Morgan, Wall Hall, Watford.
2148 **III. (£3.)**—John Langmead, Northwood, Ford, Arundel.
2155 **IV. (£2.)**—The Hon. Mrs. Bruce Ward, Godinton, Ashford, Kent.
2146 **V. (£1.)**—The Earl of Derby, K.G., Hatchfield Farm, Newmarket.
2144 **R. N.**—His Majesty the King, Sandringham.
H. C.—2145, 2149. C.—2153.

Hampshire Downs.

Class 253.—*Hampshire Down Shearling Rams.*

2158 **I. (£10.)**—James Goldsmith, Blendworth, Horndean, Cosham, Hants.
2164 **II. (£5.)**—Col. C. W. Sofer Whitburn, Amport St. Mary, Andover.
2161 **III. (£3),** and 2162 **R. N.**—Major J. A. Morrison, D.S.O., Pendley Stock Farms, Tring.
2159 **IV. (£2.)**—Major and Mrs. Jervoise, Herriard Park, Basingstoke.

Class 254.—*Hampshire Down Ram Lambs.*

2173 **I. (£10.)**—Col. C. W Sofer Whitburn, Amport St. Mary, Andover.
2169 **II. (£5.)**—Major and Mrs. Jervoise, Herriard Park, Basingstoke.
2172 **III. (£3),** and 2171 **IV. (£2.)**—Major J. A. Morrison, D.S.O., Pendley Stock Farms, Tring.
2166 **R.N.**—J. Onslow Fane, Steventon Manor, Hants.

Class 255.—*Three Hampshire Down Ram Lambs.*

2180 **I. (£10.)**—Col. C. W. Sofer Whitburn, Amport St. Mary, Andover.
2176 **II. (£5, & R. N. for Champion.[2])**—James Goldsmith, Blendworth, Horndean, Cosham, Hants.
2179 **III. (£3.)**—Major J. A. Morrison, D.S.O., Pendley Stock Farms, Tring.
2177 **R. N.**—Major and Mrs. Jervoise, Herriard Park, Basingstoke.

Class 256.—*Three Hampshire Down Shearling Ewes.*

2184 **I. (£10),** and 2183 **II. (£5.)**—Major J. A. Morrison, D.S.O., Pendley Stock Farms, Tring.
2181 **III. (£3),** and 2182 **R. N.**—E. Clifton Brown, Burnham Grove, Burnham, Bucks.

Class 257.—*Three Hampshire Down Ewe Lambs.*

2191 **I. (£10, & Champion.[2])**—Col. C. W. Sofer Whitburn, Amport St. Mary, Andover.
2187 **II. (£5.)**—James Goldsmith, Blendworth, Horndean, Cosham, Hants.
2185 **III. (£3.)**—E. Clifton Brown, Burnham Grove, Burnham, Bucks.
2190 **R. N.**—Major J. A. Morrison, D.S.O., Pendley Stock Farms, Tring.
H. C.—2186, 2188.

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[1] Champion Silver Medal, or £1 in cash, given by the Southdown Sheep Society for the best Pen of Ewes or Ewe Lambs.

[2] Champion Prize of £10 given by the Hampshire Down Sheep Breeders' Association for the best exhibit.

Suffolks.

Class 258.—*Suffolk Two Shear Rams.*

2193 **I. (£10.)**—EWER & PAWSEY, Clay Pits, Foxearth, Long Melford, for **Foxearth Walton 3rd** 20171.
2194 **II. (£5.)**—R. H. FOÁ, Holywell Park, Wrotham, Kent, for **Fowlmere Champion 3rd** 20485, bred by W. C. Jackson, Fowlmere, Royston, Herts.
2192 **III. (£3.)**—MAJOR R. L. BARCLAY, C.B.E., Higham, Bury St. Edmunds, for **Grange Fashion 1st** 20028, bred by H. E. Smith, Walton Grange, Ipswich.
2195 **R. N.**—HOLLESLEY BAY LABOUR COLONY, Hollesley, Woodbridge, for **Grange Super Quality 2nd.**

Class 259.—*Suffolk Shearling Rams.*

2200 **I. (£10.)**—HOLLESLEY BAY LABOUR COLONY, Hollesley, Woodbridge, for **Grange Walton Bismarck Eagle** 20782, bred by H. E. Smith, Walton Grange, Ipswich.
2197 **II. (£5.)**—MAJOR R. L. BARCLAY, C.B.E., Higham, Bury St. Edmunds, for **Higham Superior 1st.**
2198 **III. (£3.)**—EWER & PAWSEY, Clay Pits, Foxearth, Long Melford, for **Foxearth Walton 7th.**
2199 **R. N.**—EWER & PAWSEY.

Class 260.—*Suffolk Ram Lambs.*

2205 **I. (£10.)**—EWER & PAWSEY, Clay Pits, Foxearth, Long Melford.
2210 **II. (£5.)**—G. A. GOODCHILD, Great Yeldham Hall, Great Yeldham, Essex.
2216 **III. (£3.)**—JOHN R. KEEBLE & SON, Brantham Hall, Manningtree, Essex.
2219 **IV (£2.)**—SIR PRINCE PRINCE-SMITH, BART., Southburn House, Driffield.
2218 **V. (£1.)**—STUART PAUL, Kirton Lodge, Ipswich.
2221 **R. N.**—FRANK SAINSBURY, Blunts Hall, Little Wratting, Haverhill.
H. C.—2206, 2211.

Class 261.—*Three Suffolk Ram Lambs.*[1]

2226 **I. (£10, & Champion.[2])**—G. A. GOODCHILD, Great Yeldham Hall, Great Yeldham, Essex.
2223 **II. (£5.)**—EWER & PAWSEY, Clay Pits, Foxearth, Long Melford.
2227 **III. (£3.)**—HOLLESLEY BAY LABOUR COLONY, Hollesley, Woodbridge.
2230 **IV. (£2.)**—JOHN R. KEEBLE & SON, Brantham Hall, Manningtree, Essex.
2224 **V. (£1.)**—R. H. FOÁ, Holywell Park, Wrotham, Kent.
2232 **R. N.**—STUART PAUL, Kirton Lodge, Ipswich.
H. C.—2233. **C.**—2229, 2231, 2235.

Class 262.—*Three Suffolk Shearling Ewes.*

2238 **I. (£10, & R. N. for Champion.[2])**—HOLLESLEY BAY LABOUR COLONY, Hollesley, Woodbridge.
2237 **II. (£5.)**—R. H. FOÁ, Holywell Park, Wrotham, Kent.
2236 **III. (£3.)**—MAJOR R. L. BARCLAY, C.B.E., Higham, Bury St. Edmunds.
2241 **R. N.**—A PRESTON JONES, Mickleover House, Derby.

Class 263.—*Three Suffolk Ewe Lambs.*

2246 **I. (£10.)**—G. A. GOODCHILD, Great Yeldham Hall, Great Yeldham.
2247 **II. (£5.)**—HOLLESLEY BAY LABOUR COLONY, Hollesley, Woodbridge.
2243 **III. (£3.)**—EWER & PAWSEY, Clay Pits, Foxearth, Long Melford.
2254 **IV. (£2.)**—FRANK SAINSBURY, Blunts Hall, Little Wratting, Haverhill.
2251 **V. (£1.)**—JOHN R. KEEBLE & SON, Brantham Hall, Manningtree, Essex.
2244 **R. N.**—R. H. FOÁ, Holywell Park, Wrotham, Kent.
H. C.—2253.
Cup.[3]—EWER & PAWSEY.
R. N. for Cup.[3]—HOLLESLEY BAY LABOUR COLONY.

Dorset Downs.

Class 264.—*Dorset Down Rams, Shearling and Upwards.*

2256 **I. (£10.)**—DEBENHAM & TORY, Anderson, Blandford, for **Anderson Motto 13th**, born in 1928, bred by Robert N. Tory, Anderson, Blandford.

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[1] Prizes, except Fourth and Fifth, given by the Suffolk Sheep Society.

[2] Perpetual Challenge Plate and £5 in cash given by the Suffolk Sheep Society for the best exhibit.

[3] The "Southburn" Silver Challenge Cup, given through the Suffolk Sheep Society for the most points awarded in a combination of entries.

2259 **II. (£5.)**—P. and C. Seward, Weston, Petersfield, Hants, for ram, born in 1928.
2258 **III. (£3.)**—Henry Spence Horne, Aldsworth and Marden Farms, Emsworth, Hants, for ram, born in 1928.

Class 265.—*Dorset Down Ram Lambs.*[1]

2265 **I. (£10, & R. N. for Champion.[2])**—Henry Spence Horne, Aldsworth and Marden Farms, Emsworth, Hants.
2260 **II. (£5.)**—Debenham & Tory, Anderson, Blandford.
2268 **III. (£3.)** and 2266 **IV. (£2.)**—P. and C. Seward, Weston, Petersfield, Hants.
2269 **R. N.**—Randolph Tory, Charlsworth Manor, Blandford.
H. C.—2270.

Class 266.—*Dorset Down Shearling Ewes.*

2272 **I. (£10, & Champion [2])**, and 2271 **II. (£5.)**—Debenham & Tory, Anderson, Blandford, for ewes, bred by Robert N. Tory, Anderson, Blandford.
2276 **III. (£3.)**—Henry Spence Horne, Aldsworth and Marden Farms, Emsworth, Hants.
2275 **R. N.**—The Earl of Elgin and Kincardine, C.M.G., Broomhall, Dunfermline.

Dorset Horns.

Class 267.—*Two Dorset Horn Ram Lambs, born on or after November* 1, 1928.[3]

2283 **I. (£10.)**—W. Rupert Tory, Clenstone Manor Farm, Blandford.
2280 **II. (£5.)**—Ernest George Heal, Newclose, Thorley, Isle of Wight.
2277 **III. (£3.)**—Albert A. Broughton, Impens, North Petherton, Bridgwater.
2281 **R. N.**—G. A. Kingswell, Wellow Farm, Yarmouth, Isle of Wight.
H. C.—2279.

Class 268.—*Three Dorset Horn Shearling Ewes, born on or after November* 1, 1927.

2293 **I. (£10.)**—W. Rupert Tory, Clenstone Manor Farm, Blandford.
2291 **II. (£5.)**—Ernest George Heal, Newclose, Thorley, Isle of Wight.
2288 **III. (£3.)**—W. R. Elworthy, Southmead, Monkton, Dorchester.
2284 **R. N.**—Charles Allen, Heasley, Arreton, Isle of Wight.
H. C.—2285, 2289.

Class 269.—*Three Dorset Horn Ewe Lambs, born on or after November* 1, 1928.

2301 **I. (£10.)**—W. Rupert Tory, Clenstone Manor Farm, Blandford.
2298 **II. (£5.)**—Ernest George Heal, Newclose Farm, Thorley, Isle of Wight.
2294 **III. (£3.)**—Albert A. Broughton, Impens, North Petherton, Bridgwater.
2296 **R. N.**—W. R. Elworthy, Southmead, Monkton, Dorchester.
H. C.—2297, 2299.

Ryelands.

Class 273.—*Ryeland Rams, Two Shear and upwards.*

2309 **I. (£10.)**—Walter Woolland, Baydon Manor, Ramsbury, Wilts, for **Berrington Fluff** 1996, born in 1927, bred by Lord Cawley, Berrington Hall, Leominster.
2307 **II. (£5.)**—David J. Thomas, Monachty, Abergavenny, for **Thomas Kodax** 2163, born in 1927.
2311 **III. (£3.)**—Walter Woolland, for **Thomas's Juryman** 2171, born in 1926, bred by D. J. Thomas, Monachty, Abergavenny.
2305 **R. N.**—W. L. Horbury, Ettington Park, Stratford-on-Avon, for **Thomas's Knight.**
H. C.—2306.

Class 274.—*Ryeland Shearling Rams.*

2316 **I. (£10, & Champion.[4])**—E. W. Langford, Ltd., Wye Bridge, Hereford, for **Berrington Hussar**, bred by Lord Cawley, Berrington Hall, Leominster.
2320 **II. (£5, & R. N. for Champion.[4])**—Walter Woolland, Baydon Manor, Ramsbury, Wilts, for **Marriage Hill Dandy** 2336.
2314 **III. (£3.)**—W. L. Horbury, Ettington Park, Stratford-on-Avon, for **Ettington Clytha**, bred by the late Mrs. Herbert-Huddlestone, Clytha Park, Abergavenny.
2319 **IV. (£2.)**—David J. Thomas, Monachty, Abergavenny, for **Thomas's Leader.**
2317 **R. N.**—E. W. Langford, Ltd., for **Pomono Iago.**
H. C.—2313.

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[1] Prizes, except Fourth, given by the Dorset Down Sheep Breeders' Association.

[2] Champion Prize of £5 given by the Dorset Down Sheep Breeders' Association for the best exhibit.

[3] Prizes given by the Dorset Horn Sheep Breeders' Association.

[4] Silver Challenge Cup given through the Ryeland Flock Book Society for the best Shearling Ram.

Class 275.—*Three Ryeland Ram Lambs.*

2327 I. (£10.)—WALTER WOOLLAND, Baydon Manor, Ramsbury, Wilts.
2326 II. (£5.)—DAVID J. THOMAS, Monachty, Abergavenny.
2325 III. (£3.)—E. W. LANGFORD, LTD., Wye Bridge, Hereford.
2323 R. N.—HUBERT GROOM, Warham, Wells, Norfolk.
C.—2322, 2324.

Class 276.—*Three Ryeland Shearling Ewes.*

2334 I. (£10.)—WALTER WOOLLAND, Baydon Manor, Ramsbury Wilts.
2333 II. (£5.)—E. W. LANGFORD, LTD., Wye Bridge, Hereford.
2331 III. (£3.)—W. L. HORBURY, Ettington Park, Stratford-on-Avon, for ewes, bred by D. J. Thomas, Monachty Farm, Abergavenny.
2330 R. N.—HUBERT GROOM, Warham, Wells, Norfolk.
H. C.—2329.

Class 277.—*Three Ryeland Ewe Lambs.*

2340 I. (£10.)—WALTER WOOLLAND, Baydon Manor, Ramsbury, Wilts.
2339 II. (£5.)—E. W. LANGFORD, LTD., Wye Bridge, Hereford.
2337 III. (£3.)—HUBERT GROOM, Warham, Wells, Norfolk.
2338 R. N.—W. L. HORBURY, Ettington Park, Stratford-on-Avon.
H. C.—2336.

Kerry Hill (Wales.)

Class 278.—*Kerry Hill (Wales) Rams, Two Shear and upwards.*

2346 I. (£10, & Champion.[1])—THOMAS WILLIAMS, The Gaer, Forden, Welshpool, for **Winsbury Interest** 12893, born in 1927, bred by J. T. Bevan, Winsbury, Chirbury; *s.* Jamesford Goalkeeper 10293, *d. by* Gwernruchan Active 8385.
2342 II. (£5, & R. N. for Champion.[1])—BROGYNTYN ESTATE COMPANY, Brogyntyn, Oswestry, for **Pentrenant Wader** 13562, born in 1927, bred by W. Davies, Pentrenant, Churchstock, Mont.; *s.* Llanfair Magnet 9383, *d. by* Ragdon Orator 8696.
2345 III. (£3.)—THE DUKE OF WESTMINSTER, G.C.V.O., D.S.O., Eaton Hall, Chester, for **Winsbury Jolly** 13811, born in 1927, bred by J. T. Bevan, Winsbury, Chirbury.
2343 R. N.—SIR DAVID R. LLEWELLYN, BART., The Court, St. Fagans, Glam., for **St. Fagans Cadet.**

Class 279.—*Kerry Hill (Wales) Shearling Rams.*

2350 I. (£10.)—H. W. HUNT, Grange Dairy Farm, Pattingham, Wolverhampton, for **Nurton Barrister.**
2353 II. (£5.)—H. C. PILKINGTON, Bryntanat, Llansantffraid, Mont., for **Tanatside Grog.**
2349 III. (£3.)—MAJOR J. G. DUGDALE, D.S.O., The Abbey, Cirencester, for **Whiteway William.**
2352 R. N.—THE MARQUESS OF LONDONDERRY, K.G., Plas, Machynlleth, Mont., for **Grove Quality.**

Class 280.—*Kerry Hill (Wales) Ram Lambs.*

2363 I. (£10.)—THE DUKE OF WESTMINSTER, G.C.V.O., D.S.O., Eaton Hall, Chester.
2360 II. (£5.)—SIR DAVID R. LLEWELLYN, BART., The Court, St. Fagans, Glam.
2361 III. (£3.)—THE MARQUESS OF LONDONDERRY, K.G., Plas, Machynlleth, Mont.
2362 IV. (£2.)—H. C. PILKINGTON, Bryntanat, Llansantffraid, Mont.
2364 R. N.—THOMAS WILLIAMS, The Gaer, Forden, Welshpool.

Class 281.—*Three Kerry Hill (Wales) Shearling Ewes.*

2366 I. (£10.)—THE MARQUESS OF LONDONDERRY, K.G., Plas, Machynlleth, Mont.
2368 II. (£5.)—SIR DAVID R. LLEWELLYN, BART., The Court, St. Fagans, Glam.
2371 III. (£3.)—THE DUKE OF WESTMINSTER, G.C.V.O., D.S.O., Eaton Hall, Chester.
2370 R. N.—H. C. PILKINGTON, Bryntanat, Llansantffraid, Mont.

Class 282.—*Three Kerry Hill (Wales) Ewe Lambs.*[2]

2377 I. (£10.)—H. C. PILKINGTON, Bryntanat, Llansantffraid, Mont.
2376 II. (£5.)—THE MARQUESS OF LONDONDERRY, K.G., Plas, Manchynlleth, Mont.
2379 III. (£3.)—THOMAS WILLIAMS, The Gaer, Forden, Welshpool.
2373 R. N.—BROGYNTYN ESTATE COMPANY, Brogyntyn, Oswestry.
H. C.—2378.

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[1] Silver Challenge Cup, given through the Kerry Hill (Wales) Flock Book Society for the best exhibit.

[2] Prizes given by the Kerry Hill (Wales) Flock Book Society.

Lincolns.

Class 283.—*Lincoln Two Shear Rams.*

2380 I. (£10, & R. N. for Champion.[1])—CLIFFORD NICHOLSON, Worlaby House, Brigg, Lincs, for Horkstow Manor Champion 2nd.
2384 II. (£5.)—JOSEPH SHEPHERD, National Provincial and Union Bank Buildings, Hamilton Square, Birkenhead, for West Firsby Favourite, bred by Albone Brothers, West Firsby Manor, Spridlington, Lincoln.
2382 III. (£3.)—MAJOR W. H. RAWNSLEY, Well Vale, Alford, Lincs, for Well Choice.
2383 R. N.—MAJOR W. H. RAWNSLEY, for Well Model.

Class 284.—*Lincoln Shearling Rams.*

2388 I. (£10, & Champion.[1]), 2387 II. (£5), and 2386 III. (£3.)—ERNEST ADDISON, Riby Grange, Stallingboro', Lincs.
2396 IV. (£2.)—CLIFFORD NICHOLSON, Worlaby House, Brigg, Lincs.
2393 V. (£1.)—COL. H. GORDON DEAN, Heath House, Nocton, Lincoln.
2391 R. N.—THOMAS CAMPION, East Heslerton, York.
H. C.—2390.

Class 285.—*Three Lincoln Shearling Rams.*[2]

2404 I. (£15.)—ERNEST ADDISON, Riby Grange, Stallingboro', Lincs.
2410 II. (£10.)—CLIFFORD NICHOLSON, Worlaby House, Brigg, Lincs.
2407 III. (£5.)—COL. H. GORDON DEAN, Heath House, Nocton, Lincoln.
2412 IV. (£3.)—MAJOR W. H. RAWNSLEY, Well Vale, Alford, Lincs.
2405 R. N.—JOSEPH BROCKLEBANK, Carlton-le-Moorland, Lincoln.

Class 286.—*Three Lincoln Yearling Rams, in full wool.*

2417 I. (£10), and 2418 III. (£3.)—CLIFFORD NICHOLSON, Worlaby House, Brigg, Lincs.
2416 II. (£5.)—COL. H. GORDON DEAN, Heath House, Nocton, Lincoln.
H. C.—2419.

Class 287.—*Three Lincoln Ram Lambs.*

2420 I. (£10.)—ERNEST ADDISON, Riby Grange, Stallingboro', Lincs.
2425 II. (£5.)—CLIFFORD NICHOLSON, Worlaby House, Brigg, Lincs.
2427 III. (£3.)—MAJOR W. H. RAWNSLEY, Well Vale, Alford, Lincs.
2422 R. N.—COL. H. GORDON DEAN, Heath House, Nocton, Lincoln.
H. C.—2423.

Class 288.—*Three Lincoln Ewe Lambs.*

2429 I. (£10.)—ERNEST ADDISON, Riby Grange, Stallingboro', Lincs.
2434 II. (£5.)—CLIFFORD NICHOLSON, Worlaby House, Brigg, Lincs.
2430 III. (£3.)—COL. H. GORDON DEAN, Heath House, Nocton, Lincoln.
2435 R. N.—MAJOR W. H. RAWNSLEY, Well Vale, Alford, Lincs.

Leicesters.

Class 289.—*Leicester Shearling Rams.*

2441 I. (£10, & Champion.[3])—R. MEGGINSON, Garton Field, Driffield.
2439 II. (£5.)—WILLIAM JORDAN, Eastburn, Driffield.
2443 III. (£3.)—C. H. SIMPSON & SONS, Castle House, Hunmanby.
2444 IV. (£2), and 2445 R. N.—THE EXORS. OF R. H. STOCKS, Haywold, North Dalton, Driffield.

Class 290.—*Three Leicester Shearling Rams.*[4]

2447 I. (£10, & R. N. for Champion [3]), and 2448 R. N.—WILLIAM JORDAN, Eastburn, Driffield.
2450 II. (£5.)—C. H. SIMPSON & SONS, Castle House, Hunmanby.
2449 III. (£3.)—R. MEGGINSON, Garton Field, Driffield.

Class 291.—*Leicester Ram Lambs.*

2453 I. (£10.)—F. W. DENNIS, 43 Aberdeen Walk, Scarborough.
2461 II. (£5.)—C. H. SIMPSON & SONS, Castle House, Hunmanby.
2458 III. (£3), and 2459 R. N.—WILLIAM JORDAN, Eastburn, Driffield.
2455 IV. (£2.)—JOHN T. GARBUTT, Street Farm, Loftus-in-Cleveland.

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[1] Champion Prize of £5 given by the Lincoln Longwool Sheep Breeders' Association for the best Ram in Classes 283 and 284.

[2] Prizes given by the Lincoln Longwool Sheep Breeders' Association.

[3] Piece of Plate given by the Leicester Sheep Breeders' Association for the best exhibit.

[4] Prizes given by the Leicester Sheep Breeders' Association.

Class 292.—*Leicester Shearling Ewes.*

2475 I. (£10), and 2474 III. (£3.)—R. Megginson, Garton Field, Driffield.
2471 II. (£5), 2472 IV. (£2), and 2473 R. N.—William Jordan, Eastburn, Driffield.
2476 V. (£1.)—The Exors. of R. H. Stocks, Haywold, North Dalton, Driffield.

Class 293.—*Leicester Ewe Lambs.*

2485 I. (£10), and 2484 R. N.—The Exors. of R. H. Stocks, Haywold, North Dalton, Driffield.
2483 II. (£5.)—C. H. Simpson & Sons, Castle House, Hunmanby.
2480 III. (£3.)—William Jordan, Eastburn, Driffield.

Border Leicesters.

Class 294.—*Border Leicester Rams, Two Shear and upwards.*

2489 I. (£10.)—A. J. Melrose, Hordley, Woodstock, Oxon, for **Satisfaction** 7383, born in 1926, bred by James Finlay, North Hill of Craigo, Laurencekirk.
2486 II. (£5.)—R. & W. B. Dickinson, Longcroft, Oxton, Berwickshire, for **Border Emblem** 7161, born in 1925, bred by T. & M. Templeton, Sandyknowe, Kelso.
2490 III. (£3.)—William Robson, Low Hedgeley, Northumberland, for **Greystone Lad** 6925, born in 1925, bred by Alex. McCaskie, South Greystone, Lesmahagow.
2487 R. N.—R. & W. B. Dickinson, for **Bonnie Doon.**
H.C.—2491.

Class 295.—*Border Leicester Shearling Rams.*

2493 I. (£10, & R. N. for Champion.[1])—Charles H. Dickie, Wooperton, Northumberland, for **Duplex** 7915, bred by James Howie, Hillhouse, Kilmarnock.
2492 II. (£5.)—Alexander Cochrane, Nether Craig, Kilmarnock, for **Better Still** 7828, bred by William Somerville, Covanhill, Carstairs.
2501 III. (£3.)—William Robson, Junr., Reaveley, Powburn, Northumberland, for **Long Odds** 8011, bred by N. M. Paterson, Bank House, Turriff.
2500 IV. (£2.)—William Robson, Low Hedgeley, Northumberland.
H. C.—2496, 2498. C.—2494.

Class 296.—*Border Leicester Ewes, Two Shear and upwards.*[2]

2508 I. (£10.)—A. J. Melrose, Hordley, Woodstock, Oxon, for ewe, born in 1924.
2510 II. (£5.)—John Young, Skerrington Mains, Hurlford, for ewe, born in 1926.
2509 III. (£3.)—Robert Wilson, Dockrayrigg, Wigton, Cumberland, for ewe, born in 1926.

Class 297.—*Border Leicester Shearling Ewes.*

2514 I. (£10, & Champion.[1])—A. B. Howie, Eshott Brocks, Felton, Morpeth.
2516 II. (£5.)—A. J. Melrose, Hordley, Woodstock, Oxon.
2512 III. (£3), and 2513 IV. (£2.)—R. & W. B. Dickinson, Longcroft, Oxton, Berwickshire.
H. C.—2519. C.—2511.

Wensleydales.

Class 298.—*Wensleydale Rams, Two Shear and upwards.*

2523 I. (£10.)—John Dargue, Burneside Hall, Kendal, for **Carperby Blue Champion**, born in 1927, bred by John A. Willis, Manor House, Carperby.
2522 II. (£5.)—Thomas Chester, Low Moor Farm, Ripon, for **Low Moor Blue** 3559, born in 1927, bred by R. Butterfield, Bank Head, Bentham.
2524 III. (£3.)—John William Greensit, Holme-on-Swale, Thirsk, for **Burneside Blue Prince**, born in 1927, bred by John Dargue, Burneside Hall, Kendal.
2521 R. N.—The Marquis of Bute, K.T., Dumfries House, Old Cumnock, Ayrshire, for **Roseburn Duke.**

Class 299.—*Wensleydale Shearling Rams.*

2534 I. (£10.)—John William Greensit, Holme-on-Swale, Thirsk.
2532 II. (£5.)—John Dargue, Burneside Hall, Kendal, for ram, bred by John Hoggarth & Son, Manor House, Slyne, Lancaster.
2539 III. (£3), and 2538 R. N.—J. B. Smalley, Birkby Hall, Cark-in-Cartmel.
2527 IV. (£2.)—J. Allison, Howgrave Hall, Howgrave, Bedale.
2536 V. (£1.)—Capt. John Sanderson, Ward House Farm, Ellel, Lancaster, for **Ellel Prospect**, bred by John Hoggarth, Manor House, Slyne, Lancaster.

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[1] Perpetual Silver Challenge Cup given by the Society of Border Leicester Sheep Breeders for the best exhibit.

[2] Prizes given by the Society of Border Leicester Sheep Breeders.

Class 300.—*Three Wensleydale Shearling Rams.*

2542 I. (£10.)—John Dargue, Burneside Hall, Kendal.
2543 II. (£5.)—John William Greensit, Holme-on-Swale, Thirsk.
2540 III. (£3.)—J. Allison, Howgrave Hall, Howgrave, Bedale.
2541 R. N.—Thomas Chester, Low Moor Farm, Ripon.

Class 301.—*Wensleydale Shearling Ewes.*

2551 I. (£10.)—John William Greensit, Holme-on-Swale, Thirsk.
2553 II. (£5.)—Capt. John Sanderson, Ward House Farm, Ellel, Lancaster, for ewe, bred by R. H. Milner, Borwick Lodge, Carnforth.
2546 III. (£3.)—J. Allison, Howgrave Hall, Howgrave, Bedale.
2550 R. N.—John Dargue, Burneside Hall, Kendal.
H. C.—2555.

Class 302.—*Wensleydale Yearling Ewes, shown in wool.*[1]

2560 I. (£10.)—John Percival, Easthouse, Carperby.
2557 II. (£5.)—J. Allison, Howgrave Hall, Howgrave, Bedale.
2563 III. (£3), and 2564 R. N.—J. B. Smalley, Birkby Hall, Cark-in-Cartmel.

Kent or Romney Marsh.

Class 303.—*Kent or Romney Marsh Two Shear Rams.*

2565 I. (£10.)—J. Egerton Quested, The Firs, Cheriton, Folkestone, for Quested's No. 108 of 1927 66954.
2566 II. (£5.)—J. Egerton Quested, for Quested's No. 580 of 1927 67088.
2567 III. (£3.)—Ashley Stevens, Davington Hall, Faversham, Kent, for Luddenham No. 72 of 1927.

Class 304.—*Kent or Romney Marsh Shearling Rams.*

2580 I. (£10, & Champion [2]), and 2581 V. (£1.)—J. Egerton Quested, The Firs, Cheriton, Folkestone.
2575 II. (£5, & R. N. for Champion [2]), and 2576 IV. (£2.)—W. Miller, Renville, Canterbury.
2582 III. (£3.)—Ashley Stevens, Davington Hall, Faversham, Kent.
2573 R. N.—The Earl of Guilford, Waldershare Park, Dover.
H. C.—2569, 2570. C.—2574, 2577.

Class 305.—*Three Kent or Romney Marsh Shearling Rams.*[3]

2596 I. (£20), 2597 II. (£15), and 2598 IV. (£5.)—J. Egerton Quested, The Firs, Cheriton, Folkestone.
2593 III. (£10.)—W. Miller, Renville, Canterbury.
2600 V. (£1.)—Ashley Stevens, Davington Hall, Faversham, Kent.
2592 R. N.—The Earl of Guilford, Waldershare Park, Dover.
H. C.—2588, 2589. C.—2594, 2602.

Class 306.—*Three Kent or Romney Marsh Ram Lambs.*

2605 I. (£10.)—Clifford Nicholson, Worlaby House, Brigg, Lincs.
2608 II. (£5.)—Ashley Stevens, Davington Hall, Faversham, Kent.
2603 III. (£3.)—H. H. Batchelor, Whitehouse Farm, Higham, Rochester.
2606 R. N.—J. Egerton Quested, The Firs, Cheriton, Folkestone.
H. C.—2607.

Class 307.—*Three Kent or Romney Marsh Shearling Ewes.*

2612 I. (£10, & Champion [4]), and 2611 III. (£3.)—J. Egerton Quested, The Firs, Cheriton, Folkestone.
2609 II. (£5, & R. N. for Champion.[4])—The Earl of Guilford, Waldershare Park, Dover.
2610 R. N.—Clifford Nicholson, Worlaby House, Brigg, Lincs.
H. C.—2614.

Class 308.—*Three Kent or Romney Marsh Ewe Lambs.*

2620 I. (£10.)—Ashley Stevens, Davington Hall, Faversham, Kent.
2615 II. (£5.)—H. H. Batchelor, Whitehouse Farm, Higham, Rochester.

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[1] Prizes given by the Wensleydale Longwool Sheep Breeders' Association.

[2] Champion Prize of £10 10*s.* given by the Kent or Romney Marsh Sheep Breeders' Association for the best Ram in Classes 303 and 304.

[3] Prizes, except Fifth, given by the Kent or Romney Marsh Sheep Breeders' Association.

[4] Champion Prize of £10 10*s.* given by the Kent or Romney Marsh Sheep Breeders' Association for the best Pen of Ewes or Ewe Lambs.

2619 III. (£3.)—J. Egerton Quested, The Firs, Cheriton, Folkestone.

2617 R. N.—Clifford Nicholson, Worlaby House, Brigg, Lincs.

H. C.—2618. C.—2616.

South Devons.

Class 309.—*South Devon Shearling Rams.*

2624 I. (£10), and 2623 II. (£5.)—H. Whitley, Primley, Paignton.

Class 310.—*South Devon Shearling Ewes.*

2628 I. (£10.)—A. E. Stidston & Son, Court Barton, Thurlestone, Kingsbridge, Devon.

2630 II. (£5.)—H. Whitley, Primley, Paignton.

2626 III. (£3), and 2625 R. N.—William Charles Bice, Nanswhyden, St. Columb, Cornwall.

C.—2627.

Lonks.

Class 311.—*Lonk Rams, Shearling and upwards.*

2633 I. (£10.)—Edward Smith, Summerhouse Farm, Cowling, Keighley, for **Summerhouse Spellbender**, born in 1927, bred by L. R. Duckworth, Tottington Road, Bury.

2632 II. (£5.)—H. O. Mitchell, Blackmoor Farm, Oxenhope, Keighley, for **Blackmoor Pride 3rd**, born in 1927.

2634 III. (£3.)—Alfred Taylor, Prince Bank Farm, Lumb, Rossendale, Lancs, for **Prince Bank Jem**, born in 1927.

Class 312.—*Lonk Shearling Ewes.*

2637 I. (£10.)—Stanley E. Kipper, Holden Farm, Roggerham, Burnley, for **Stan's Fashion.**

2639 II. (£5), and 2638 III. (£3.)—H. O. Mitchell, Blackmoor Farm, Oxenhope, Keighley.

Swaledales.

Class 313.—*Swaledale Rams, born in or before* 1927.[1]

2643 I. (£10.)—Thomas W. Guy, Gilmonby, Bowes, Darlington, for **Summer Lodge Champion B. 868,** born in 1925, bred by Thomas Sayer, Summer Lodge, Low Row, Richmond.

2642 II. (£5.)—Joseph William Dent, Fair View, Middleton-in-Teesdale, for **Pennington Swell A. 1115,** born in 1927, bred by Sir Frederick Milbank, Bart., Barningham, Richmond.

2644 III. (£3.)—Frank Laycock, Bridge House, Burnsall, Skipton, for **Frith Stylish Lad,** born in 1926, bred by T. Metcalfe, West Stiresdale, Keld.

2646 R. N.—John Lawrence Peacock, Punchard House, Arkengarthdale, Richmond, Yorks, for **King Maker.**

Class 314.—*Swaledale Rams, born in* 1928.

2653 I. (£10.)—John Lawrence Peacock, Punchard House, Arkengarthdale, Richmond.

2647 II. (£5.)—Joseph William Dent, Fair View, Middleton-in-Teesdale, for **Wooley Moor Lad.**

2649 III. (£3.)—W. T. Harrison, Bouthwaite Grange, Ramsgill, Harrogate, for **Bouthwaite Lodge,** bred by R. J. Guy, Hill Top Lodge, Muker, Richmond, Yorks.

2651 R. N.—Frank Laycock, Bridge House, Burnsall, Skipton.

Class 315.—*Two Swaledale Ewes, born in or before* 1927.

2654 I. (£10.)—Joseph William Dent, Fair View, Middleton-in-Teesdale, for ewes, born in 1925.

2656 II. (£5.)—Thomas W. Guy, Gilmonby, Bowes, Darlington, for ewes, born in 1927.

2658 III. (£3.)—John Lawrence Peacock, Punchard House, Arkengarthdale, Richmond, Yorks, for ewes, born in 1927.

Class 316.—*Two Swaledale Ewes, born in* 1928.

2661 I. (£10.)—Frank Laycock, Bridge House, Burnsall, Skipton.

2664 II. (£5.)—John Wearmouth, Nettle Pot, Lunedale, Middleton-in-Teesdale, for **Queen of the Heather and Queen of the Meadows.**

2659 III. (£3.)—Joseph William Dent, Fair View, Middleton-in-Teesdale.

2660 R. N.—W. T. Harrison, Bouthwaite Grange, Ramsgill, Harrogate, for **Heather and Moss Crop.**

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[1] Prizes given by the Swaledale Sheep Breeders' Association.

Herdwicks.

Class 317.—*Herdwick Rams, Two Shear and upwards.*[1]

2670 **I. (£10.)**—William Wilson, Stoneycroft, Newlands, Keswick, for **Derwent Parlishcrater** 4160, born in 1923.
2669 **II. (£5.)**—S. D. Stanley-Dodgson, Armaside, Cockermouth, for **Harrot Footprint** 5038, born in 1925.
2665 **III. (£3.)**—Lord Leconfield, Cockermouth Castle, Cumberland, for **Dash Orphan Boy** 5196, born in 1925.
2667 **R. N.**—S. D. Stanley-Dodgson, for **Chapel House Champion.**

Class 318.—*Herdwick Shearling Rams.*

2674 **I. (£10.)**—William Wilson, Stoneycroft, Newlands, Keswick, for **Derwent Newlands Bolt.**
2673 **II. (£5.)**—S. D. Stanley-Dodgson, Armaside, Cockermouth.
2671 **III. (£3.)**—Lord Leconfield, Cockermouth Castle, Cumberland, for **Dash Dictator.**
2672 **R. N.**—Lord Leconfield, for **Dash Director.**

Class 319.—*Herdwick Shearling Ewes.*

2679 **I. (£10.)**—William Wilson, Stoneycroft, Newlands, Keswick, for **Derwent Fairyblen.**
2677 **II. (£5),** and 2676 **R. N.**—S. D. Stanley-Dodgson, Armaside, Cockermouth.
2678 **III. (£3.)**—Richard M. Wilson, Glencoyne Farm, Ullswater, Penrith.

Cheviots.

Class 320.—*Cheviot Rams, Two Shear and upwards.*

2685 **I. (£10, & R. N. for Champion.[2])**—Messrs. Thomson, Bushelhill, Cockburnspath, for **Bobbie Walker,** born in 1927.
2681 **II. (£5.)**—John Robson, Newton, Tarset, Northumberland, for ram, born in 1927.
2684 **III. (£3.)**—John Robson, Junr., Lynegar, Watten, Caithness, for **Double Martini** 4406, born in 1926, bred by John Elliot, Junr., Blackhaugh, Clovenfords.
2686 **R. N.**—John Newton Waldy, Burnfoot, Harbottle, Morpeth, for **The Laird.**

Class 321.—*Cheviot Shearling Rams.*

2693 **I. (£10, & Champion.[2])**—Messrs. Thomson, Bushelhill, Cockburnspath.
2692 **II. (£5.)**—Messrs. Thomson, for **Aberdonian.**
2691 **III. (£3.)**—John Robson, Junr., Lynegar, Watten, Caithness, for **Lynegar Emperor.**
2690 **R. N.**—John Robson, Junr., for **Lynegar Comet.**

Class 322.—*Cheviot Shearling Ewes.*

2695 **I. (£10.)**—Geoffrey Robson, Closehill, Tarset, Northumberland.
2696 **II. (£5.)**—John Robson, Newton, Tarset, Northumberland.
2697 **III. (£3.)**—Messrs. Thomson, Bushelhill, Cockburnspath, for **Lady Comer.**

Blackface Mountain.

Class 323.—*Blackface Mountain Rams, Two Shear and upwards.*

2698 **I. (£10.)**—Arthur Cayley, Carham Hall, Cornhill-on-Tweed, for **Highland Charlie** 1305, born in 1925, bred by Matthew Hamilton, Woolfords, Cobbinshaw.
2700 **II. (£5.)**—Arthur Cayley, for **Border Charlie** 1569, born in 1927.
2701 **III. (£3.)**—John Robson, Newton, Tarset, Northumberland, for **Beau Geste,** born in 1926, bred by William Mitchell, Haselside, Douglas.

Class 324.—*Blackface Mountain Shearling Rams.*

2705 **I. (£10.)**—John Robson, Newton, Tarset, Northumberland.
2704 **II. (£5.)**—Geoffrey Robson, Closehill, Tarset, Northumberland.
2703 **III. (£3.)**—Arthur Cayley, Carham Hall, Cornhill-on-Tweed, for **Highland Fling.**

Class 325.—*Blackface Mountain Ewes, Two Shear and upwards, to have reared a lamb in* 1929.[3]

2707 **I. (£10.)**—Geoffrey Robson, Closehill, Tarset, for ewes, born in 1923.
2706 **II. (£5.)**—Arthur Cayley, Carham Hall, Cornhill-on-Tweed, for **Ditchburn Truth** 932, born in 1924.
2709 **III. (£3.)**—William Wilcock, Station Road, Tadcaster, for **Applegarth Fancy** 1938, born in 1927.

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[1] Prizes given by the Herdwick Sheep Breeders' Association.
[2] The "Borthwick" Challenge Cup given by the Cheviot Sheep Society for the best exhibit.
[3] Prizes given by the English Blackface Sheep Breeders' Society.

Class 328.—*Blackface Mountain Shearling Ewes.*

2713 **I.** (£10.)—JOHN ROBSON, Newton, Tarset, Northumberland.
2714 **II.** (£5.)—WILLIAM WILCOCK, Station Road, Tadcaster, for **Applegarth Starlight.**
2711 **III.** (£3.)—ARTHUR CAYLEY, Carham Hall, Cornhill-on-Tweed, for **Ditchburn Iris.**

Black Welsh Mountain.

Class 329.—*Black Welsh Mountain Shearling Rams.*

2718 **I.** (£10.)—MRS. JERVOISE, Herriard Park, Basingstoke.
2717 **II.** (£5.)—MAJOR F. H. T. JERVOISE, Herriard Park, Basingstoke, for ram, bred by Mrs. Jervoise, Herriard Park.
2719 **III.** (£3), and 2720 **R. N.**—MAJOR-GEN. LORD TREOWEN, C.B., C.M.G., Llanover, Abergavenny.
H. C.—2715. **C.**—2716.

Class 330.—*Three Black Welsh Mountain Shearling Ewes.*[1]

2725 **I.** (£10.)—MRS. JERVOISE, Herriard Park, Basingstoke.
2724 **II.** (£5.)—MAJOR F. H. T. JERVOISE, Herriard Park, Basingstoke, for ewe, bred by Mrs. Jervoise, Herriard Park.
2721 **III.** (£3.)—MAJOR CLIVE BEHRENS, Swinton Grange, Malton.
2727 **R. N.**—MAJOR-GEN. LORD TREOWEN, C.B., C.M.G., Llanover, Abergavenny.

PIGS.

[*The numbers in brackets refer to the Tattoo or Ear Numbers of the Animals.*]

Large Whites.

Class 331.—*Large White Boars, born in or before* 1927.

2736 **I.** (**£10, Champion,**[2] **& R. N. for Champion.**[3])—JOHN H. PENTY, Glebe Farm, Bolton Percy, York, for **Bourne King David 219th** 55955 (6112), born July 25, 1925, bred by Edmund Wherry, Bourne; *s.* Bourne King David 20th 40527, *d.* Bourne Champion Queen 5th 76980 *by* Sapperton Boy 24471.
2729 **II.** (£5.)—LORD DARESBURY, C.V.O., Walton Hall, Warrington, for **Peakirk Bob 7th** 57455 (260), born Aug. 29, 1925, bred by John Neaverson, Peakirk, Peterborough; *s.* Bob of Bourne 28701, *d.* Spalding Queen Mary 20th 92702 *by* Monitor of Spalding 30081.
2740 **III.** (£3.)—WALTER W. RYMAN, Manor Farm, Wall, Lichfield, for **Wall Jay 2nd** 58079 (987), born July 3, 1925; *s.* Spalding Jay 11th 42357, *d.* Wall Catalina 3rd 93334 *by* Brookfield Banner 28965.
2730 **IV.** (£2.)—E. R. DEBENHAM, Bladen Estate, Briantspuddle, Dorchester, for **Forest Bradbury 2nd** 64913 (410), born March 14, 1927, bred by R. W. Carson, Lea Hall, Hatfield Heath, Harlow; *s.* Edmonton Bradbury 2nd 60681, *d.* Forest Amy 11th 169618 *by* Turk of Bottesford 27417.
2737 **V.** (£1.)—J. RACKLEY & SONS, LTD., Hermitage Farm, Silver Street, Edmonton, London, N.18, for **Edmonton King David 73rd** 64781 (920), born Aug. 1, 1927; *s.* Bourne King David 145th 52353, *d.* Bourne Bonetta 27th 103300 *by* Bourne Champion Boy 33091.
2734 **R. N.**—J. PIERPONT MORGAN, Wall Hall, Watford, for **Aldenham Brigadier.**
H. C.—2735. **C.**—2738.

Class 332.—*Large White Boars, born in* 1928, *before July* 1.

2744 **I.** (**£10, & R. N. for Champion.**[3])—CHIVERS & SONS, LTD., Histon, Cambridge, for **Histon Wonder 69th** (1000), born Feb. 14; *s.* Histon Wonder 22nd 48247, *d.* Histon Amy 32nd 146926 *by* Spalding Banner 7th 34093.
2746 **II.** (£5.)—LORD DARESBURY, C.V.O., Walton Hall, Warrington, for **Walton Boy 39th** 66159 (1364), born Feb. 12; *s.* Adlington Boy 52033, *d.* Walton Lassie 19th 149474 *by* Boxted Turk 33117.
2754 **III.** (£3.)—J. PIERPONT MORGAN, Wall Hall, Watford, for **Aldenham Bugler** (2505), born Jan. 12; *s.* Aldenham Bellringer 26th 59917, *d.* Histon Beryl 79th 158752 *by* Dalmeny Macbeth 29263.

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[1] Prizes given by the Black Welsh Mountain Sheep Breeders' Association.

[2] Champion Gold Medal given by the National Pig Breeders' Association for the best Large White Boar.

[3] Silver Challenge Cup given by the National Pig Breeders' Association for the best Large White Pig.

2753 **IV. (£2.)**—Jack R. Major, Ramsey, Hunts, for **Ramsey Bonnie Boy** (3,) born Jan. 1; *s.* Bourne Bar-None 311th 60175, *d.* Ramsey Blackberry 160376 *by* Bob of Spalding 40241.

2757 **V. (£1.)**—J. Rackley & Sons, Ltd., Hermitage Farm, Silver Street, Edmonton, London, N.18, for **Edmonton King David 98th** 64803 (1091), born Jan. 9; *s.* Bourne King David 223rd 55959, *d.* Edmonton Bonetta 169288 *by* Bourne Bradbury 40429.

2758 **R. N.**—E. Thomlinson, Hall Farm, Hutton Wandesley, Marston, Yorks, for **Tockwith Prince George 13th.**

H. C.—2747. **C.**—2748, 2759.

2747, 2776, 2841, 2899 **R. N. for Specials.**[1]—Lord Daresbury, C.V.O., for **Walton Turk 37th, Walton Jay 33rd, Walton Lassie 38th** and **Walton Queen Mary 10th.**

Class 333.—*Large White Boars, born in* 1928, *on or after July* 1.[2]

2772 **I. (£10.)**—Walter W. Ryman, Manor Farm, Wall, Lichfield, for **Wall King David 3rd** 66135 (1848), born July 1; *s.* Bourne King David 12th 40515, *d.* Rangemore Surprise 16th 160456 *by* Packwood Conrad 2nd 42049.

2769 **II. (£5.)**—R. G. Peel, Moreton Hall, Congleton, for **Moreton Baldwin 54th** (1057), born July 1; *s.* Bourne Baldwin 52255, *d.* Moreton Maud 19th 159694 *by* Caldmore Banner 4th 36569.

2763 **III. (£3.)**—Lord Daresbury, C.V.O., Walton Hall, Warrington, for **Walton King David 55th** (1460), born July 4; *s.* Bourne King David 52nd 47549, *d.* Walton Bonetta 2nd 173288 *by* Bourne Bradbury 40429.

2760 **IV. (£2.)**—Marden Pedigree Pig Co., Ltd., Marden Mill, Devizes, for **Woodborough King David 2nd** (546), born July 12; *s.* Walton King David 4th 58135, *d.* Walton Empress 17th 182578 *by* Walton Bandmaster 2nd 48943.

2771 **R. N.**—J. Rackley & Sons., Ltd., Hermitage Farm, Silver Street, Edmonton, London, N.18, for **Edmonton King David 152nd.**

H. C.—2762, 2768.

2772, 2855, 2891, 2920 **Special I. (£10.[1])**—Walter W. Ryman, for **Wall King David 3rd, Wall Surprise 8th, 10th** and **13th.**

Class 334.—*Large White Boars, born in* 1929.

2810 **I. (£10.)**—Alfred W. White, Hillegom, Spalding, for **Spalding Banner 14th** (9009), born Jan. 3; *s.* Caldmore Expectation 2nd 60279, *d.* Spalding Baroness 10th *by* Duston Monitor 23rd 60619.

2776 **II. (£5.)**—Lord Daresbury, C.V.O., Walton Hall, Warrington, for **Walton Jay 33rd** (1619), born Jan. 1; *s.* Walton Jay 27th 66185, *d.* Walton Queen Mary 7th 173376 *by* Dupplin Excellence 56389.

2780 **III. (£3.)**—Daniel R. Daybell, Bottesford, Nottingham, for **Bottesford Bradbury 14th** (54,) born Jan. 3; *s.* Edmonton Bradbury 3rd 56491, *d.* Bottesford Buttercup 98th 156580 *by* Worsley Jay 87th 27619.

2801 **IV. (£2.)**—J. Rackley & Sons, Ltd., Hermitage Farm, Silver Street, Edmonton, London, N.18, for **Edmonton King David 176th** (1603), born Jan. 5; *s.* Bourne King David 223rd 55959, *d.* Edmonton Bonetta 24th 179632 *by* Bourne King David 145th 52353.

2775 **V. (£1.)**—Lord Daresbury, C.V.O., for **Walton Jay 32nd** (1616), born Jan. 1; *s.* Walton Jay 27th 66185, *d.* Walton Queen Mary 7th 173376 *by* Dupplin Excellence 56389.

2790 **R. N.**—Alfred Lewis, Westacre, King's Lynn, for **Westacre Bradbury 293rd.**

H. C.—2785. **C.**—2781, 2805, 2806.

2810, 2860, 2892, 2924 **Special II. (£5.[1])**—Alfred W. White, for **Spalding Banner 14th, Spalding Superior 4th, Spalding Lady Mollington 39th** and **Spalding Baroness 11th.**

Class 335.—*Large White Breeding Sows, born in or before* 1927.

2814 **I. (£10, Champion,[3] & Champion.[4])**—Lord Daresbury, C.V.O., Walton Hall, Warrington, for **Peakirk Mary 5th** 160130 (262), born Aug. 29, 1925, farrowed Feb. 1, bred by John Neaverson, Peakirk, Peterborough; *s.* Bob of Bourne 28701, *d.* Spalding Queen Mary 20th 92702 *by* Monitor of Spalding 30081.

2832 **II. (£5.)**—Wm. Wright & Sons (York), Ltd., 9 Goodramgate, York, for **Mill Duchess 4th** 171236 (24), born July 20, 1926, farrowed Jan. 7, bred by A. C. Wright, Mill House, Raskelf, Easingwold; *s.* Tockwith Major 42535, *d.* Barfield Duchess 102992 *by* Tockwith Banner 34241.

2829 **III. (£3.)**—J. Rackley & Sons, Ltd., Hermitage Farm, Silver Street, Edmonton, London, N.18, for **Edmonton Bonetta 6th** 169292 (540), born Jan. 3, 1927, farrowed March 27; *s.* Bourne King David 223rd 55959, *d.* Bourne Bonetta 27th 103300 *by* Bourne Champion Boy 33091.

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[1] Special Prizes of £10 (First Prize) and £5 (Second Prize) given by the National Pig Breeders' Association for the best groups of four pigs, bred by Exhibitor, in Classes 332 to 334 and 336 to 338. One Boar (at least) must be included in each group, and not more than one entry to be selected from any one Class.

[2] Prizes, except Fourth, given by the National Pig Breeders' Association.

[3] Silver Challenge Cup given by the National Pig Breeders' Association for the best Large White Pig.

[4] Champion Gold Medal given by the National Pig Breeders' Association for the best Large White Sow.

2816 **IV.** (£2.)—CAPT. R. S. HALL, New Hall, Tendring, Essex, for **Newhall Sunrise 6th** 159810 (580), born May 6, 1925, farrowed Jan. 2; *s.* Forest Comet 2nd 36969, *d.* Newhall Sunrise 2nd 107466 *by* Worsley Jay 109th 34479.

2821 **V.** (£1.)—ALFRED LEWIS, Westacre, King's Lynn, for **Histon Beryl 142nd** 180376 (S. 667), born March 1, 1927, farrowed Jan. 4, bred by Chivers & Sons, Ltd., Histon, Cambridge; *s.* Bourne King David 237th 55975, *d.* Histon Beryl 105th 158804 *by* Dalmeny Macbeth 29263.

2825 **R. N.**—J. PIERPONT MORGAN, Wall Hall, Watford, for **Aldenham Belle 72nd.**

H. C.—2819, 2831.

Class 336.—*Large White Sows, born in* 1928, *before July* 1.

2841 **I.** (£10, & **R. N. for Champion.**[1])—LORD DARESBURY, C.V.O., Walton Hall, Warrington, for **Walton Lassie 38th** (1423), born May 2; *s.* Moreton Major 2nd 61551, *d.* Walton Lassie 24th 161556 *by* Bourne King David 52nd 47549.

2849 **II.** (£5.)—J. PIERPONT MORGAN, Wall Hall, Watford, for **Aldenham Queen 34th** (2517), born Jan. 16; *s.* Aldenham Brigadier 55669, *d.* Bourne Queen 39th 88990 *by* Bourne King John 26091.

2847 **III.** (£3.)—JACK R. MAJOR, Ramsey, Hunts, for **Ramsey Model 26th** (48), born Jan. 22; *s.* Bourne Bar-None 311th 60175, *d.* Ramsey Model 18th 160398 *by* Caldmore Banner 5th 47717.

2859 **IV.** (£2.)—E. THOMLINSON, Hall Farm, Hutton Wandesley, Marston, Yorks, for **Tockwith Blackberry 8th** 182368 (2330), born Jan. 2; *s.* Packwood Prince Edward 57453, *d.* Histon Blackberry 2nd 147020 *by* Aldenham Master 36091.

2843 **V.** (£1.)—ERNEST HARDING, Packwood Grange, Dorridge, Warwickshire, for **Packwood Timbrel 73rd** (2588), born Jan. 18; *s.* Packwood King David 4th 53405, *d.* Packwood Timbrel 60th 160106 *by* Bourne King David 25th 40533.

2852 **R. N.**—JOHN H. PENTY, Glebe Farm, Bolton Percy, York, for **Glebe Lucy 2nd.**

H. C.—2840, 2856. **C.**—2853, 2858.

Class 337.—*Large White Sows, born in* 1928, *on or after July* 1.

2891 **I.** (£10.)—WALTER W. RYMAN, Manor Farm, Wall, Lichfield, for **Wall Surprise 10th** (1850), born July 1; *s.* Bourne King David 12th 40515, *d.* Rangemore Surprise 16th 160456 *by* Packwood Conrad 2nd 42049.

2892 **II.** (£5.)—ALFRED W. WHITE, Hillegom, Spalding, for **Spalding Lady Mollington 39th** (8153), born July 9; *s.* Caldmore Expectation 2nd 60279, *d.* Spalding Lady Mollington 20th 131524 *by* Dalmeny Macbeth 29263.

2878 **III.** (£3.)—ROWLAND P. HAYNES, Delves Green Farm, Wednesbury, for **Whittingham Wallflower 22nd** (8868), born July 27, bred by Whittingham Mental Hospital, Preston; *s.* Abberton Bindle 55623, *d.* Whittingham Wallflower 6th 161978 *by* Bourne King David 50th 47545.

2869 **IV.** (£2.)—LORD DARESBURY, C.V.O., Walton Hall, Warrington, for **Walton Bonetta 26th** (1462), born July 4; *s.* Bourne King David 52nd 47549, *d.* Walton Bonetta 2nd 173288 *by* Bourne Bradbury 40429.

2887 **V.** (£1.)—R. G. PEEL, Moreton Hall, Congleton, for **Moreton Maud 45th** (1060), born July 1; *s.* Bourne Baldwin 52255, *d.* Moreton Maud 19th 159694 *by* Caldmore Banner 4th 36569.

2886 **R. N.**—R. G. PEEL, for **Moreton Maud 43rd.**

H. C.—2876. **C.**—2868, 2872.

Class 338.—*Large White Sows, born in* 1929.

2924 **I.** (£10.)—ALFRED W. WHITE, Hillegom, Spalding, for **Spalding Baroness 11th** (9011), born Jan. 3; *s.* Caldmore Expectation 2nd 60279, *d.* Spalding Baroness 10th *by* Duston Monitor 23rd 60619.

2899 **II.** (£5.)—LORD DARESBURY, C.V.O., Walton Hall, Warrington, for **Walton Queen Mary 10th** (1621), born Jan. 1; *s.* Walton Jay 27th 66185, *d.* Walton Queen Mary 7th 173376 *by* Dupplin Excellence 56389.

2901 **III.** (£3.)—DANIEL R. DAYBELL, Bottesford, Nottingham, for **Bottesford Buttercup 119th** (49), born Jan. 1; *s.* Edmonton Bradbury 3rd 56491, *d.* Bottesford Buttercup 102nd 168076 *by* Sapperton President 42263.

2911 **IV.** (£2.)—ALFRED LEWIS, Westacre, King's Lynn, for **Westacre Lily 59th** (4206), born Jan. 4; *s.* Westacre Bradbury 2nd 58273, *d.* Histon Lily 93rd 180628 *by* Bourne King David 36437.

2897 **V.** (£1.)—ERNEST A. CROOKES, Rose Cottage Farm, Cutthorpe, Chesterfield, for **Cutthorpe Queen 52nd** (2187), born Jan. 4; *s.* Edmonton King David 50th 60709, *d.* Caldmore Queen E.T. 179036 *by* Edmonton Turk 18th 56509.

2909 **R. N.**—ROWLAND P. HAYNES, Delves Green Farm, Wednesbury, for **Packwood Brocade 19th.**

H. C.—2917, 2920. **C.**—2902, 2910.

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[1] Champion Gold Medal given by the National Pig Breeders' Association for the best Large White Sow.

Middle Whites.

Class 339.—*Middle White Boars, born in or before* 1927.

2929 **I. (£10, Champion,[1] & R. N. for Champion.[2])**—E. M. Jowitt, Strode Manor, Bridport, Dorset, for **Norsbury Woodman 8th** 67061 (1774), born Sept. 14, 1927, bred by Mrs. Hayes Sadler, Horne Court, Horley, Surrey; *s.* Norsbury Hivite 59267, *d.* Norsbury Welcome 17th 165150 *by* Norsbury Harold 50791.

2934 **II. (£5.)**—Leopold C. Paget, Hardwick Grange, Clumber, Worksop, for **Wharfedale Clinker** 51673 (645), born Jan. 18, 1924; *s.* Illuminator of Wharfedale 44935, *d.* Wharfedale Phosphorine 126412 *by* Wharfedale Neptune 35897.

2936 **III. (£3.)**—Mrs. Sofer Whitburn, Amport St. Mary, Andover, for **Salts Illuminator** 59449 (465), born Jan. 28, 1926, bred by A. Leney, Chestercourt, Edenbridge; *s.* Wharncliffe Prince 32625, *d.* Wharfedale Helah 101474 *by* Wharfedale Deliverance 32575.

2931 **IV. (£2.)**—Major J. A. Morrison, D.S.O., Pendley Stock Farms, Tring, for **Pendley Apache** (87), born Jan. 13, 1927; *s.* Histon Woodman 28th 59057, *d.* Whitehill Rover's Choice 155338 *by* Histon Rover 48th 44581.

2932 **R. N.**—Leopold C. Paget, for **Wharfedale Ajaccio.**

H. C.—2935. **C.**—2928.

Class 340.—*Middle White Boars, born in* 1928, *before July* 1.

2942 **I. (£10, & R. N. for Champion.[1])**—Leopold C. Paget, Hardwick Grange, Clumber, Worksop, for **Wharfedale Armature** 67351 (1562), born Jan. 3; *s.* Wharfedale Apex 59693, *d.* Wharfedale Silver Queen 143858 *by* Councillor of Wharfedale 46505.

2938 **II. (£5.)**—T. H. Gladstone, Eastcote Grange, Hampton-in-Arden, Warwickshire, for **Pendley Prince 6th** (126), born Jan. 2, bred by Major J. A. Morrison, D.S.O., Pendley Stock Farms, Tring; *s.* Salts Prince 7th 63787, *d.* Pendley Hollyberry 3rd *by* Whitehill Hasty 3rd 59743.

2937 **III. (£3.)**—Canford Schools, Canford, Wimborne, for **Canford Shrewsbury** 66687 (345), born Jan. 29; *s.* Hammonds Hivite 8th 63811, *d.* Wattle Alice 4th 166524 *by* Southmore Shrewsbury 30489.

2940 **R. N.**—Major J. A. Morrison, D.S.O., Pendley Stock Farms, Tring, for **Pendley Apollo 4th.**

H. C.—2941. **C.**—2943, 2944.

Class 341.—*Middle White Boars, born in* 1928, *on or after July* 1.[3]

2957 **I. (£10.)**—Joseph Triffitt, Fulford, York, for **Wharfedale Dependence** (1671), born July 3, bred by Leopold C. Paget, Hardwick Grange, Clumber Park, Worksop; *s.* Wharfedale Advocate 64001, *d.* Wharfedale Silver Queen 143858 *by* Councillor of Wharfdale 46505.

2958 **II. (£5.)**—Mrs. Sofer Whitburn, Amport St. Mary, Andover, Hants, for **Amport Scotty 15th** (0999), born July 1; *s.* Amport Scotty 54143, *d.* Salts Helah 14th 177278 *by* Wharncliffe Prince 32625.

2952 **III. (£3.)**—Major J. A. Morrison, D.S.O., Pendley Stock Farms, Tring, for **Pendley Apollo 3rd** (190), born July 2; *s.* Godmersham Apollo 30th 66801, *d.* Whitehill Hagar 5th 143958 *by* Pendley Warrior 45899.

2946 **IV. (£2.)**—Miss R. B. Babcock, Shawlands, Lingfield, Surrey, for **Shawlands Master Woodman** (1348), born Aug. 19; *s.* Salts Deliverance 15th 59445, *d.* Mistley Dorothy 232nd 184680 *by* Hawthorn Sultan 15th 54669.

2950 **V. (£1.)**—Country Breeding Estates, Ltd., Lynford, Mundford, Norfolk, for **Lynford Canberra** (816), born July 14; *s.* Shipley Sedative 63879, *d.* Shipley Sunflower Queen 10th 185406 *by* Hallastone Drayman 3rd 54569.

2947 **R. N.**—S. Bide & Sons, Ltd., Pedigree Pig Farm, Farnham, Surrey, for **Compton Royal Scot.**

H. C.—2948, 2955. **C.**—2956.

2946, 2990, 3007, 3022 **Special II. (£5).**[4]—Miss R. B. Babcock, for **Shawlands Master Woodman, Shawlands Choice Girl 4th, Shawlands Alma 3rd** and **Shawlands Choice Dorothy.**

Class 342.—*Middle White Boars, born in* 1929.

2975 **I. (£10.)**—Major J. A. Morrison, D.S.O., Pendley Stock Farms, Tring, for **Pendley Deliverance** (227), born Jan. 3; *s.* Salts Deliverance 8th 55145, *d.* Godmersham Holly 29th 163536 *by* Apollo of Wharfedale 43133.

2964 **II. (£5.)**—Country Breeding Estates, Ltd., Lynford, Mundford, Norfolk, for **Lynford Waratah** (29), born Jan. 1; *s.* Histon Baron 36th 63371, *s.* Shipley Choice 25th 166022 *by* Prestwood Salopian 35597.

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[1] Champion Gold Medal given by the National Pig Breeders' Association for the best Middle White Boar.

[2] Silver Challenge Cup given by the National Pig Breeders' Association for the best Middle White Pig.

[3] Prizes, except Fourth and Fifth, given by the National Pig Breeders' Association.

[4] Special Prizes of £10 (First Prize) and £5 (Second Prize) given by the National Pig Breeders' Association for the best groups of four Pigs, bred by Exhibitor, in Classes 340 to 342 and 344 to 346. One Boar (at least) must be included in each group, and not more than one entry to be selected from any one Class.

2960 **III.** (£3.)—S. BIDE & SONS, LTD., Pedigree Pig Farm, Farnham, Surrey, for **Compton Attorney** (249), born Jan. 6; *s.* Khan of Heathenden 50519, *d.* Compton Lady 8th 150708 *by* Wharncliffe Master 46847.

2970 **IV.** (£2.)—HICKS & SONS, High Fordon, Hunmanby, Yorks, for **Fordon Brian 4th** (29), born Jan. 15; *s.* Defender of Ypres 43857, *d.* Fordon Belinda 3rd 96102 *by* Counthorpe Benedick 31451.

2974 **V.** (£1.)—A. HOWARD LAMIN, Bestwood Park, Arnold, Notts, for **Bestwood Hercules 6th** (148), born Jan. 4; *s.* Hammonds Hercules 4th 63293, *d.* Bestwood Chosen 183394 *by* Salts Deliverance 8th 55145.

2959 **R. N.**—MISS R. B. BABCOCK, Shawlands, Lingfield, Surrey, for **Shawlands Prince Peter.**

H. C.—2961, 2969. **C.**—2968.

2975, 2999, 3015, 3033 **Special I.** (£10).[1]—MAJOR J. A. MORRISON, D.S.O., for **Pendley Deliverance, Pendley Princess 2nd, Pendley Rover's Choice 10th** and **Pendley Princess 6th.**

Class 343.—*Middle White Breeding Sows, born in or before* 1927.

2989 **I.** (£10, **Champion,**[2] **& Champion.**[3])—MRS. SOFER WHITBURN, Amport St. Mary, Andover, for **Amport Choice 5th** 162228 (30), born July 20, 1925, farrowed Feb. 8; *s.* Histon Milpond 35161, *d.* Choice of Pendley 3rd 134738 *by* Stortford Rover 39509.

2978 **II.** (£5, **& R. N. for Champion.**[3])—MISS R. B. BABCOCK, Shawlands, Lingfield, Surrey, for **Hammonds Gracious 13th** 163716 (692), born March 15, 1925, farrowed March 11, bred by H. R. Beeton, Hammonds, Checkendon, Reading; *s.* Hammonds Hivite 31661, *d.* Hammonds Gracious 136822 *by* Wharfedale Hector 35879.

2980 **III.** (£3.)—CHIVERS & SONS, LTD., Histon, Cambridge, for **Histon Woodlands 6th** 175916 (773), born Jan. 1, 1927, farrowed March 12; *s.* Hammonds Herald 44353, *d.* Ayle Woodlands 150088 *by* Peene Slasher 45849.

2986 **IV.** (£2.)—MRS. A. F. HAYES SADLER, Horne Court, Horley, Surrey, for **Salts Choice 21st** 177252 (567), born July 14, 1926, farrowed Jan. 24, bred by A. Leney, Chestercourt, Edenbridge; *s.* Wharncliffe Prince 32625, *d.* Oxney Choice 5th 121344 *by* Oxney Revel 35505.

2984 **R. N.**—W. HALLAS, Bank House Farm, Helsby, via Warrington, for **Ashtonhayes Monadelphia.**

H. C.—2985. **C.**—2981, 2983.

Class 344.—*Middle White Sows, born in* 1928, *before July* 1.

2994 **I.** (£10.)—COUNTRY BREEDING ESTATES, LTD., Lynford, Mundford, Norfolk, for **Pendley Princess 4th** 184944 (141), born Jan. 3, bred by Major J. A. Morrison, D.S.O., Pendley Stock Farms, Tring; *s.* Salts Prince 7th 63787, *d.* Whitehill Hagar 5th 143958 *by* Pendley Warrior 45899.

3003 **II.** (£5.)—LEOPOLD C. PAGET, Hardwick Grange, Clumber, Worksop, for **Wharfedale Silverlocks** 185742 (1556), born Jan. 3; *s.* Wharfedale Apex 59693, *d.* Wharfedale Silver Queen 143858 *by* Councillor of Wharfedale 46505.

2999 **III.** (£3.)—MAJOR J. A. MORRISON, D.S.O., Pendley Stock Farms, Tring, for **Pendley Princess 2nd** 184940 (138), born Jan. 3; *s.* Salts Prince 7th 63787, *d.* Whitehill Hagar 5th 143958 *by* Pendley Warrior 45899.

3000 **IV.** (£2.)—MAJOR J. A. MORRISON, D.S.O., for **Pendley Princess 5th** 184946 (143), born Jan. 3; *s.* Salts Prince 7th 63787, *d.* Whitehill Hagar 5th 143958 *by* Pendley Warrior 45899.

2990 **V.** (£1.)—MISS R. B. BABCOCK, Shawlands, Lingfield, Surrey, for **Shawlands Choice Girl 4th** (1020), born Jan. 11; *s.* Mistley Prophet 67023, *d.* Compton Choice 5th 174864 *by* Hammonds Herald 44353.

2996 **R. N.**—E. M. JOWITT, Strode Manor, Bridport, Dorset, for **Burford Jill.**

H. C.—3005, 3006. **C.**—2991, 2993, 3002.

Class 345.—*Middle White Sows, born in* 1928, *on or after July* 1.

3015 **I.** (£10.)—MAJOR J. A. MORRISON, D.S.O., Pendley Stock Farms, Tring, for **Pendley Rover's Choice 10th** (198), born July 3; *s.* Pendley Herald 55031, *d.* Whitehill Rover's Choice 155338 *by* Histon Rover 48th 44581.

3020 **II.** (£5.)—MRS. SOFER WHITBURN, Amport St. Mary, Andover, for **Amport Fuchsia 9th** (2029), born July 4; *s.* Amport Scotty 54143, *d.* Pendley Fuchsia 6th 140606 *by* Hawthorn Sultan 38741.

3014 **III.** (£3.)—MAJOR J. A. MORRISON, D.S.O., for **Pendley Rover's Choice 9th** (196), born July 3; *s.* Pendley Herald 55031, *d.* Whitehill Rover's Choice 155338 *by* Histon Rover 48th 44581.

3007 **IV.** (£2.)—MISS R. B. BABCOCK, Shawlands, Lingfield, Surrey, for **Shawlands Alma 3rd** (1205), born July 8; *s.* Salts Deliverance 15th 59445, *d.* Hammonds Alma 151802 *by* Hammonds Hivite 31661.

3018 **V.** (£1.)—MRS. A. F. HAYES SADLER, Horne Court, Horley, Surrey, for **Norsbury Tiny 6th** (2009), born July 10; *s.* Norsbury Romantic Deliverance 63613, *d.* Norsbury Tiny 4th 176672 *by* Southmore Chief 35769.

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[1] Special Prizes of £10 (First Prize) and £5 (Second Prize) given by the National Pig Breeders' Association for the best groups of four pigs, bred by Exhibitor, in Classes 340 to 342 and 344 to 346. One Boar (at least) must be included in each group, and not more than one entry to be selected from any one Class.

[2] Silver Challenge Cup given by the National Pig Breeders' Association for the best Middle White Pig.

[3] Champion Gold Medal given by the National Pig Breeders' Association for the best Middle White Sow.

3008 **R. N.**—S. BIDE & SONS, LTD., Pedigree Pig Farm, Farnham, Surrey, for **Compton Choice 14th.**
H. C.—3011, 3021. **C.**—3010, 3017.

Class 346.—*Middle White Sows, born in* 1929.

3033 **I. (£10.)**—MAJOR J. A. MORRISON, D.S.O., Pendley Stock Farms, Tring, for **Pendley Princess 6th** (245), born Jan. 3; *s.* Salts Deliverance 8th 55145, *d.* Whitehill Hagar 5th 143958 *by* Pendley Warrior 45899.

3036 **II. (£5.)**—MRS. A. F. HAYES SADLER, Horne Court, Horley, Surrey, for **Norsbury Welcome 43rd** (2113), born Jan. 11; *s.* Norsbury John 63603, *d.* Norsbury Welcome 10th 139820 *by* Norsbury Vaughan 39201.

3035 **III. (£3.)**—MAJOR J. A. MORRISON, D.S.O., for **Pendley Princess 8th** (244), born Jan. 3; *s.* Salts Deliverance 8th 55145, *d.* Whitehill Hagar 5th 143958 *by* Pendley Warrior 45899.

3037 **IV. (£2.)**—MRS. SOFER WHITBURN, Amport St. Mary, Andover, for **Amport Cubist 8th** (2168), born Jan. 1; *s.* Salts Illuminator 59449, *d.* Caroline of Norsbury 6th 134558 *by* Southmore Chief 35769.

3022 **V. (£1.)**—MISS R. B. BABCOCK, Shawlands, Lingfield, Surrey, for **Shawlands Choice Dorothy** (47), born Jan. 4; *s.* Salts Prince 9th 67189, *d.* Shawlands Dorothy 185258 *by* Hawthorn Sultan 15th 54669.

3026 **R. N.**—J. ONSLOW FANE, Steventon Manor, Hants, for **Steventon Rose.**
H. C.—3023, 3034. **C.**—3030, 3031.

Tamworths.

Class 347.—*Tamworth Boars, born in or before* 1927.

3038 **I. (£10.)**—E. R. DEBENHAM, Bladen Farms, Briantspuddle, Dorchester, for **Berkswell Bass** 55547 (70), born Feb. 21, 1925, bred by Major C. J. H. Wheatley, Berkswell Hall, Berkswell; *s.* Knowle Brooklyn 47121, *d.* Berkswell Judy 144712 *by* Toby of Broomshields 47191.

3040 **II. (£5.)**—MAJOR C. J. H. WHEATLEY, Berkswell Hall, Berkswell, Warwickshire, for **Basildon Tommy Kirnam 10th** 64139 (476), born April 13, 1927, bred by Major J. A. Morrison, D.S.O., Basildon Park, Goring, Reading; *s.* Knowle Brutus 2nd 47127, *d.* Basildon Mirror 88022 *by* Whitacre Fireaway 25821.

3039 **III. (£3.)**—THE REV. L. S. NOBLE, M.A., The Rectory, Hamstall Ridware, Stafford, for **Roxley Peter 5th** 55607 (479), born Jan. 31, 1925, bred by W. T. F. Jarrold, Thorpe St. Andrews, Norfolk; *s.* Roxley Easthoe 55597, *d.* Roxley Primrose 127484 *by* Basildon Dennis 2nd 35975.

Class 348.—*Tamworth Boars, born in* 1928.[1]

3041 **I. (£10, & Champion.[2])**—E. R. DEBENHAM, Bladen Farms, Briantspuddle, Dorchester, for **Bladen Bass** (137), born Jan. 24; *s.* Berkswell Bass 55547, *d.* Basildon Brilliant 13th 155654 *by* Knowle Newcastle 44143.

3042 **II. (£5.)**—THE REV. L. S. NOBLE, M.A., The Rectory, Hamstall Ridware, Stafford, for **Hamstall Joker** (8), born Jan. 2; *s.* Roxley Peter 5th 55607, *d.* Shepperton Daisy 178324 *by* Whitacre Wanderer 39865.

3043 **III. (£3.)**—MAJOR C. J. H. WHEATLEY, Berkswell Hall, Berkswell, Warwickshire, for **Peartown Patriot** 66515 (301), born Feb. 1, bred by V. A. Bayley, Rectory, Abdon, Craven Arms; *s.* Peartown Golden Eagle 64191, *d.* Milton Pearl 10th 144774 *by* Roxley Exeter 36047.

Class 349.—*Tamworth Boars, born in* 1929.

3047 **I. (£10, & R. N. for Champion.[2])**—ROWLAND P. HAYNES, Delves Green Farm, Wednesbury, for **Caldmore Arthur** (4212), born Jan. 1; *s.* Roxley Arthur 2nd 59859, *d.* Pillith Queen Diana 2nd 155846 *by* Basildon Majesty 5th 47081.

3045 **II. (£5.)**—E. R. DEBENHAM, Bladen Farms, Briantspuddle, Dorchester, for **Bladen Joe** (823), born Jan. 9; *s.* Darfield Joe 59859, *d.* Basildon Reflection 19th 178186 *by* Knowle Brutus 47125.

3046 **III. (£3.)**—GABRIEL F. FENWICK, The Verzons, Ledbury, for **Verzons Christopher** (45), born Feb. 9; *s.* Cold Field Brutus, *d.* Verzons Caroline 178340 *by* White House Cardinal 59883.

3050 **R. N.**—MAJOR C. J. H. WHEATLEY, Berkswell Hall, Berkswell, Warwickshire, for **Berkswell Essex.**

Class 350.—*Tamworth Breeding Sows, born in or before* 1927.

3051 **I. (£10, R. N. for Champion,[3] & R. N. for Champion.[4])**—E. R. DEBENHAM, Bladen Farms, Briantspuddle, Dorchester, for **Basildon Swift Footstep 10th** 178192 (378), born March 15, 1926, farrowed Jan. 11, bred by Major J. A. Morrison, D.S.O., Basildon Park, Goring, Reading; *s.* Milton Bishop 2nd 86041, *d.* Basildon Arbury 24th 87976 *by* Knowle Darlington 32687.

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[1] Prizes given by the National Pig Breeders' Association.

[2] Champion Gold Medal given by the National Pig Breeders' Association for the best Tamworth Boar.

[3] Champion Gold Medal given by the National Pig Breeders' Association for the best Tamworth Sow.

[4] Silver Challenge Cup given by the National Pig Breeders' Association for the best Tamworth Pig.

3054 **II. (£5.)**—Major C. J. H. Wheatley, Berkswell Hall, Berkswell, Warwickshire, for **Berkswell Red Cap** 178200 (31), born Jan. 6, 1927, farrowed Feb. 16; *s.* Verzons Red Gauntlet 59881, *d.* Berkswell Constance 167214 *by* Knowle Councillor 59861.

3052 **III. (£3.)**—Rowland P. Haynes, Delves Green Farm, Wednesbury, for **Rushall Sally 2nd** 178318 (112), born June 1, 1926, farrowed Jan. 28, bred by B. C. Anson, Daw End Farm, Rushall, Walsall; *s.* Red Chief of Caldmore 51975, *d.* Sunbeam Sally 2nd 178336 *by* Sunbeam Squire 2nd 55609.

3053 **R. N.**—Major C. J. H. Wheatley, for **Berkswell Beauty 2nd.**

H. C.—3055.

Class 351.—*Tamworth Sows, born in* 1928.

3060 **I. (£10, Champion,[1] & Champion.[2])**—Walter W. Ryman, Manor Farm, Wall, Lichfield. for **Wall Diamond** 183282 (8), born March 14; *s.* Hamstall Ridware 64169, *d.* Milton Diamond 178292 *by* Verzons Beefeater 55615.

3062 **II. (£5.)**—Major C. J. H. Wheatley, Berkswell Hall, Berkswell, Warwickshire, for **Berkswell Constance 7th** 183112 (96), born Jan. 10; *s.* Verzons Red Gauntlet 59881, *d.* Berkswell Constance 167214 *by* Knowle Councillor 59861.

3061 **III. (£3.)**—Major C. J. H. Wheatley, for **Berkswell Beauty 5th** 183096 (109), born Jan. 20; *s.* Neuburie Cayenne 55579, *d.* Berkswell Beauty 167210 *by* Milton Beau 55573.

3056 **R. N.**—E. R. Debenham, Bladen Farms, Briantspuddle, Dorchester, for **Bladen Golden Princess.**

Class 352.—*Tamworth Sows, born in* 1929.

3068 **I. (£10.)**—Major C. J. H. Wheatley, Berkswell Hall, Berkswell, Warwickshire, for **Berkswell Gloriana** (14), born Jan. 6; *s.* Basildon Tommy Kirnam 10th 64139, *d.* Milton Bess 33rd 183234 *by* Darfield Joe 59859.

3063 **II. (£5.)**—E. R. Debenham, Bladen Farms, Briantspuddle, Dorchester, for **Bladen Reflection** (327), born Jan. 9; *s.* Darfield Joe 59859, *d.* Basildon Reflection 19th 178186 *by* Knowle Brutus 47125.

3066 **III. (£3.)**—Major J. A. Morrison, D.S.O., Basildon Park, Goring, Reading, for **Basildon Model 7th** (562), born Jan. 6; *s.* Roxley Edward 3rd 47155, *d.* Basildon Bashful 12th 167150 *by* Milton Bishop 2nd 36041.

3067 **R. N.**—Major C. J. H. Wheatley, for **Berkswell Arabella.**

Berkshires.

Class 353.—*Berkshire Boars, born in or before* 1927.

3073 **I. (£10.)**—Frank Townend, Highfield, Moor Allerton, Leeds, for **Highfield Royal President 3rd** B. 340, born June 1, 1922; *s.* Pamber President 22702, *d.* Eaton Princess Royal 3rd 22450 *by* Manor Record 20276.

3069 **II. (£5.)**—Canford School, Canford, Wimborne, for **Ashe Marvel** 1931, born March 6, 1927, bred by T. L. Martin, Ashe Warren, Overton, Hants; *s.* Heale Nutmeg 2nd 26448, *d.* Ashe Marcella 2nd 4101 *by* Hammonds Hottentot 21218.

3071 **III. (£3.)**—The Earl of Harewood, Harewood House, Leeds, for **Rudgate Emperor 2nd** 2217, born Jan. 19, 1927, bred by Charles Triffitt, Tockwith, York; *s.* Highfield Royal President 338, *d.* Rudgate Pygmalion's Queen 4th 4744 *by* Rudgate Pygmalion 901.

Class 354.—*Berkshire Boars, born in* 1928, *before July* 1.

3079 **I. (£10, & Champion.[3])**—Charles Triffitt, Ferncliffe House, Tockwith, York, for **Rudgate Hercules** 2595, born Feb. 17; *s.* Rudgate Renown 2219, *d.* Fulford Princess Royal 5770 *by* Highfield Royal President 2nd 339.

3080 **II. (£5.)**—The Hon. Mrs. Bruce Ward, Godinton, Ashford, Kent, for **Godinton Sweet King**, born Jan. 21; *s.* Godinton Lunn King B. 1645, *d.* Godinton Sweet Bessie S. 6838 *by* Highfield Marina President 5th B. 1303.

3077 **III. (£3.)**—Capt. John Sherard Reeve, Leadenham House, Leadenham, Lincoln, for **Chapel Carrier** B. 2395, born Jan. 1; *s.* Hammonds Carrier B. 1022, *d.* Swinton Live Margaret S. 6444 *by* Murrell Live Scott B. 37.

3078 **R. N.**—Eric Sykes, Richings Park, Iver, Bucks, for **Richings Nutcracker.**

Class 355.—*Berkshire Boars, born in* 1928, *on or after July* 1.[4]

3094 **I. (£10, & R. N. for Champion.[3])**—Frank Townend, Highfield, Moor Allerton, Leeds, for **Ridgemoor Pygmalion**, born July 3, bred by H. C. Inwood, Ridgemoor, Newbury; *s.* Highfield Royal Pygmalion 13th 2077, *d.* Ridgemoor Golden Melody 8534 *by* Motcombe Scott 2259.

3082 **II. (£5.)**—Major Clive Behrens, Swinton Grange, Malton, for **Swinton Amelius**, born July 26; *s.* Swinton President 1135, *d.* Lenton Amelia 3rd 5877 *by* Leadenham Duke 748.

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[1] Champion Gold Medal given by the National Pig Breeders' Association for the best Tamworth Sow.

[2] Silver Challenge Cup given by the National Pig Breeders' Association for the best Tamworth Pig.

[3] Champion Gold Medal given by the National Pig Breeders' Association for the best Berkshire Boar.

[4] Prizes, except Fourth and Fifth, given by the National Pig Breeders' Association.

3088 **III.** (£3.)—Ronald Verner Garton, Langbourne, Blandford, for **Langbourne British King** 2499, born July 1; *s.* Kingstone British King B. 1692, *d.* Iwerne Maruja 3rd S. 8078 *by* Hammonds Bonny Lad B. 480.

3081 **IV.** (£2.)—S. Cecil Armitage, Lenton Fields, Nottingham, for **Richings Beau Royal**, born Aug. 10, bred by Eric Sykes, Richings Park, Iver, Bucks; *s.* Highfield Royal Pygmalion 3rd S. 852, *d.* Richings Orange Girl 2nd 8524 *by* Richings Royalist 2nd B. 1394.

3089 **V.** (£1.)—Major J. A. Morrison, D.S.O., Basildon Park, Goring, Reading, for **Basildon Charles**, born Aug. 7; *s.* Whitley Charles 3rd B. 2323, *d.* Alwoodley British Queen 1st S. 7236 *by* Highfield Royal Pygmalion 7th B. 1675.

3095 **R. N.**—The Hon. Mrs. Bruce Ward, Godinton, Ashford, Kent, for **Godinton Sweet President.**

H. C.—3087, 3092.

Class 356.—*Berkshire Boars, born in* 1929.

3103 **I.** (£10.)—Ronald Verner Garton, Langbourne, Blandford, for **Langbourne Cricketer**, born Jan. 13; *s.* Stalbridge Cricketer 2617, *d.* Iwerne Maruja 3rd S. 8078 *by* Hammonds Bonny Lad B. 480.

3101 **II.** (£5.)—George Fillingham, Syerston Hall, Newark, for **Syerston President 3rd**, born Jan. 7; *s.* Syerston President 1st 2649, *d.* Syerston Sally Lunn 2nd 8864 *by* Highfield Baron 3rd B. 1417.

3106 **III.** (£3.)—T. E. Prest, Chapel Farm, Swinton, Malton, for **Chapel President**, born Jan. 5; *s.* Highfield Royal President 6th B. 1638, *d.* Swinton Careful Margery S. 6402 *by* Hammonds Carrier B. 1022.

3097 **IV.** (£2.)—Major Clive Behrens, Swinton Grange, Malton, for **Swinton Brittanicus**, born Jan. 15; *s.* Woodhouse Amanullah 2nd 2691, *d.* Swinton High Queen 3rd 10029 *by* Highfield Royal President 6th 1638.

3108 **V.** (£1.)—Frank Townend, Highfield, Moor Allerton, Leeds, for **Highfield Royal Pygmalion 23rd**, born Feb. 12; *s.* Highfield Royal Pygmalion 3rd 852, *d.* Highfield British Queen 28th 7192 *by* Highfield Royal President 2nd 339.

3105 **R. N.**—Major J. A. Morrison, D.S.O., Basildon Park, Goring, Reading, for **Basildon Nutmeg.**

H. C.—3098, 3109.

Class 357.—*Berkshire Breeding Sows, born in or before* 1927.

3122 **I.** (£10.)—Charles Triffitt, Ferncliffe House, Tockwith, York, for **Fulford Princess Royal** 5770, born Sept. 11, 1925, farrowed Feb. 16, bred by J. E. Triffitt, 1a St. Oswald's Road, Fulford, York; *s.* Highfield Royal President 2nd 339, *d.* Highfield Princess Royal 19th 5124 *by* Highfield Marina President 341.

3118 **II.** (£5.)—Eric Sykes, Richings Park, Iver, Bucks, for **Iwerne Orange Girl** 4952, born Sept. 27, 1924, farrowed Feb. 10, bred by James Ismay, Iwerne Minster, Blandford; *s.* Northcote Cobbler 839, *d.* Manor Maruja 24321 *by* Manor Buckmaster 22554.

3120 **III.** (£3.)—Frank Townend, Highfield, Moor Allerton, Leeds, for **Highfield British Queen 28th** 7192, born July 4, 1926, farrowed Feb. 12; *s.* Highfield Royal President 2nd 339, *d.* Manor Marina 2nd 24324 *by* Braishfield Buck 19909.

3117 **IV.** (£2.)—Major J. A. Morrison, D.S.O., Basildon Park, Goring, Reading, for **Suddon Confidence** S. 6731, born Feb. 4, 1925, farrowed Jan. 18, bred by Julius Fricker, Junr., Bridge Close Farm, Hardington, Yeovil; *s.* Bungays Resolute B. 1390, *d.* Suddon Foe S. 2970 *by* Heale War Lunn 24172.

3119 **R. N.**—Frank Townend, for **Highfield Princess Royal 7th.**

H. C.—3116, 3121. **C.**—3114.

Class 358.—*Berkshire Sows, born in* 1928, *before July* 1.

3135 **I.** (£10, **Champion,**[1] **& Champion.**[2])—Major J. A. Morrison, D.S.O., Basildon Park, Goring, Reading, for **Basildon Princess Royal** 9104, born Jan. 5; *s.* Highfield Royal Pygmalion 8th B. 1676, *d.* Highfield Princess Royal 41st S. 7184 *by* Highfield Royal President 2nd B. 339.

3141 **II.** (£5, **R. N. for Champion,**[1] **& R. N. for Champion.**[2])—The Hon. Mrs. Bruce Ward, Godinton, Ashford, Kent, for **Godinton Plunkette 6th** 9478, born Jan. 31; *s.* Highfield Royal President 8th B. 1665, *d.* Promise S. 6265 *by* Pamber President 22702.

3127 **III.** (£3.)—E. R. Debenham, Bladen Farms, Briantspuddle, Dorchester, for **Bladen Gracious**, born Feb. 13; *s.* Swinton Pretender 2288, *d.* Compton Graceful 6077 *by* Enham Picture 1100.

3128 **IV.** (£2.)—H. W. Dufosee, Stalbridge Park, Dorset, for **Stalbridge Norah 2nd** 9998, born Jan. 2, bred by Lord Stalbridge, Warsash House, Southampton; *s.* Manor Umpire B. 1660, *d.* Motcombe Norah 6th S. 5892 *by* Manor Pygmalion B. 1283.

3124 **V.** (£1.)—Major Clive Behrens, Swinton Grange, Malton, for **Swinton Amelia 2nd**, born Jan. 17; *s.* Swinton President 1135, *d.* Lenton Amelia 3rd 5877 *by* Leadenham Duke 748.

3123 **R. N.**—S. Cecil Armitage, Lenton Fields, Nottingham, for **Highfield Princess Royal 61st.**

H. C.—3134, 3136. **C.**—3126, 3131.

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[1] Champion Gold Medal given by the National Pig Breeders' Association for the best Berkshire Sow.

[2] The "Eaton" Silver Challenge Cup given through the National Pig Breeders' Association for the best Berkshire Pig.

Class 359.—*Berkshire Sows, born in* 1928, *on or after July* 1.

3149 **I. (£10.)**—Ronald Verner Garton, Langbourne, Blandford, for **Langbourne Maruja** 9700, born July 1; *s.* Kingstone British King B. 1692 *d.* Iwerne Maruja 3rd S. 8078 *by* Hammonds Bonny Lad B. 480.
3142 **II. (£5.)**—S. Cecil Armitage, Lenton Fields, Nottingham, for **Lenton Bonny Lass 4th** 9806, born July 28, bred by J. D. Player, Lenton Hurst, Nottingham; *s.* Lenton British Baron 2nd 2135, *d.* Hammonds Bonny Lass 6376 *by* Hammonds Bonny Lad B. 480.
3143 **III. (£3.)**—Major Clive Behrens, Swinton Grange, Malton, for **Swinton Cautious Margaret,** born July 18; *s.* Hammonds Carrier 1022, *d.* Swinton Peg Margaret 3rd 10038 *by* Highfield Royal President 6th B. 1638.
3146 **IV. (£2.)**—E. R. Debenham, Bladen Estate, Briantspuddle, Dorchester, for **Bladen Happy Girl 2nd,** born Aug. 30; *s.* Swinton Pretender 2283, *d.* Dunmanor Fancy 25th 9412 *by* Suddon War Lunn 232.
3156 **V. (£1.)**—The Hon. Mrs. Bruce Ward, Godinton, Ashford, Kent., for **Godinton Daisy 18th,** born July 15; *s.* Godinton Lunn King B. 1645, *d.* Godinton Daisy 3rd S. 6845 *by* Highfield Marina President 5th B. 1303.
3154 **R. N.**—Frank Townend, Highfield, Moor Allerton, Leeds, for **Highfield British Queen 46th.**
H. C.—3151, 3155. **C.**—3145.

Class 360.—*Berkshire Sows, born in* 1929.

3168 **I. (£10.)**—T. E. Prest, Chapel Farm, Swinton, Malton, for **Chapel Marjory,** born Jan. 5; *s.* Highfield Royal President 6th B. 1638, *d.* Swinton Careful Marjory S. 6402 *by* Hammonds Carrier B. 1022.
3172 **II. (£5.)**—The Hon. Mrs. Bruce Ward, Godinton, Ashford, Kent, for **Godinton May Burton 6th,** born Jan. 14; *s.* Richings British Royalist 2203, *d.* Godinton May Burton 2nd 9468 *by* Highfield Royal President 8th B. 1665.
3158 **III. (£3.)**—Major Clive Behrens, Swinton Grange, Malton, for **Swinton Ann Margaret,** born Feb. 6; *s.* Swinton Arthur 2627, *d.* Swinton Miss Margaret 4th *by* Eaton Emperor 558.
3167 **IV. (£2.)**—Major J. A. Morrison, D.S.O., Basildon Park, Goring, Reading, for **Basildon Princess Royal 8th,** born Jan. 12; *s.* Heale Nutmeg 2nd 26448, *d.* Highfield Princess Royal 41st S. 7184 *by* Highfield Royal President 2nd B. 339.
3170 **V. (£1.)**—Eric Sykes, Richings Park, Iver, Bucks, for **Fairy Queen,** born Jan. 3, bred by T. A. Edney Hayter, Whitchurch, Hants; *s.* Monk Fairway 2549, *d.* Basildon Nancy 3rd 4366 *by* Suddon Regent B. 322.
3164 **R. N.**—George Fillingham, Syerston Hall, Newark, for **Syerston Sally Lunn 7th.**
H. C.—3161, 3163. **C.**—3166.
Cup.[1]—Frank Townend.
R. N. for Cup.[1]—The Hon. Mrs. Bruce Ward.

Wessex Saddlebacks.

Class 361.—*Wessex Saddleback Boars, born in or before* 1927.

3177 **I. (£10, Champion,[2] & R. N. for Champion.[3])**—Douglas Vickers, Temple Dinsley, Hitchin, Herts, for **Preston Dandy** 2935, born March 5, 1926; *s.* Pipers Adrian 2243, *d.* Offa Doreen 4845 *by* Offa Edmund 471.
3174 **II. (£5, & R. N. for Champion.[2])**—Dr. William H. Forshaw, Slythehurst, Ewhurst, Guildford, for **Slythehurst Chorister** 2795, born Oct. 18, 1925; *s.* Slythehurst Prince Forester 1329, *d.* Slythehurst Chance 11807 *by* Kingsland Charlie 1812.
3176 **III. (£3.)**—H. G. Lakin, Pipers Hill, Leamington, for **Slythehurst Baron** 2898, born June 24, 1926, bred by Dr. William H. Forshaw, Slythehurst, Ewhurst, Guildford; *s.* Slythehurst Bar None 2336, *d.* Slythehurst Chance 11807 *by* Kingsland Charlie 1812.

Class 362.—*Wessex Saddleback Boars, born in* 1928.[4]

3182 **I. (£10.)**—Douglas Vickers, Temple Dinsley, Hitchin, Herts, for **Preston Leader** 3231, born March 3; *s.* Oakley Prior 1678, *d.* Preston Lorna 2nd 12196 *by* Royston Cicero 1530.
3180 **II. (£5.)**—Dr. William H. Forshaw, Slythehurst, Ewhurst, Guildford, for **Slythehurst Charles** 3239, born Jan. 8; *s.* Carlos of Slythehurst 3024, *d.* Slythehurst Chintz 13908 *by* Slythehurst Bar None 2336.
3178 **III. (£3.)**—H. L. Brooksbank, Sandrock, Tickhill, Yorks, for **Moonraker of Sandrock** 3280, born July 14, bred by the Exors. of H. T. Holloway, Court Farm, Imber, Wilts; *s.* Bromham General 2880, *d.* Imber Frivolous 13076 *by* Lone Star Rambler 2524.
3181 **R. N.**—H. H. Harris, New Farm, Besford, Defford, Worcester, for **Besford Hero 2nd.**

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[1] The "Berkshire" Silver Challenge Cup given through the National Pig Breeders' Association for the most points awarded in a combination of entries.
[2] Champion Gold Medal given by the National Pig Breeders' Association for the best Boar.
[3] Silver Challenge Cup given by the National Pig Breeders' Association for the best Pig.
[4] Prizes given by the National Pig Breeders' Association.

Class 363.—*Wessex Saddleback Boars, born in* 1929.

3185 **I. (£10.)**—H. H. HARRIS, New Farm, Besford, Defford, Worcester, for **Besford Hero 3rd**, born Jan. 18; *s.* Offa Hero 1st 1914, *d.* Besford Brenda 7th 13751 *by* Southcroft Stonecracker 2690.

3184 **II. (£5.)**—F. W. GILBERT, The Manor, Chellaston, Derby, for **Chellaston Rover** 3278, born Feb. 11; *s.* Chellaston Gone Away 3159, *d.* Sockhill Snow-white 10th 13862 *by* Sockhill Pasha 2595.

3183 **III. (£3.)**—DR. WILLIAM H. FORSHAW, Slythehurst, Ewhurst, Guildford, for **Slythehurst Protection** 3267, born Jan. 16; *s.* Practitioner of Slythehurst 3176, *d.* Slythehurst Charmaine 14710 *by* Slythehurst Bar None 2336.

3188 **R. N.**—DOUGLAS VICKERS, Temple Dinsley, Hitchin, Herts, for **Preston Shah.**

Class 364.—*Wessex Saddleback Breeding Sows, born in or before* 1927.

3193 **I. (£10, Champion,[1] & Champion.[2])**—COL. G. H. MYTTON, Chadlington Downs, Chipping Norton, for **Godalming Mollie 10th** 14532, born Jan. 7, 1927, farrowed Jan. 18, bred by A. Freeland, Tuesley Farm, Godalming, Surrey; *s.* Godalming Nero 2792, *d.* Godalming Mollie 7th 12349 *by* Shillinglee Apollo 2001.

3190 **II. (£5.)**—H. L. BROOKSBANK, Sandrock, Tickhill, Yorks, for **Sandrock Star 1st** 14376, born Aug. 14, 1926, farrowed Jan. 21; *s.* Welwyn Rufus 2502, *d.* Ashe Star 5th 12029 *by* Ashe Mac 2nd 680.

3191 **III. (£3.)**—DR. WILLIAM H. FORSHAW, Slythehurst, Ewhurst, Guildford, for **Diana of Slythehurst** 14583, born July 3, 1927, farrowed Jan. 18, bred by Mrs. Zillah Walker, Slythehurst, Ewhurst, Guildford: *s.* Slythehurst Baron 2898, *d.* Slythehurst Daphne 13559 *by* Godalming Dandy 2359.

3195 **R. N.**—DOUGLAS VICKERS, Temple Dinsley, Hitchin, Herts, for **Brandon Lady.**

Class 365.—*Wessex Saddleback Sows, born in* 1928.

3202 **I. (£10, & R. N. for Champion.[2])**—DOUGLAS VICKERS, Temple Dinsley, Hitchin, Herts, for **Preston Laurette** 14940, born March 3, 1928; *s.* Oakley Prior 1678, *d.* Preston Lorna 2nd 12196 *by* Royston Cicero 1530.

3197 **II. (£5.)**—H. L. BROOKSBANK, Sandrock, Tickhill, Yorks, for **Godalming Eve 6th** 15013, born Aug. 10, bred by A. Freeland, Tuesley Farm, Godalming; *s.* Godalming Masterpiece 3037, *d.* Godalming Eve 13420 *by* Shillinglee Apollo 2001.

3199 **III. (£3.)**—F. W. GILBERT, The Manor, Chellaston, Derby, for **Chellaston Sally 4th** 14657, born Jan. 23; *s.* Preston Dolphin 1st 2967, *d.* Chellaston Sally 13689 *by* Preston Victor 2610.

3198 **R. N.**—DR. WILLIAM H. FORSHAW, Slythehurst, Ewhurst, Guildford, for **Slythehurst Gazette.**

Class 366.—*Wessex Saddleback Sows, born in* 1929.

3206 **I. (£10.)**—H. H. HARRIS, New Farm, Besford, Defford, Worcester, for **Besford Brenda 13th**, born Jan. 18; *s.* Offa Hero 1st 1914, *d.* Besford Brenda 7th 13751 *by* Southcroft Stonecracker 2690.

3208 **II. (£5.)**—DOUGLAS VICKERS, Temple Dinsley, Hitchin, Herts, for **Preston Druidess** 15175, born Jan. 13; *s.* Brandon Tomahawk 2nd 2879, *d.* Preston Dorcas 2nd 14030 *by* Preston Senator 2nd 2766.

3209 **III. (£3.)**—DOUGLAS VICKERS, for **Preston Siren 1st** 15161, born Jan. 2; *s.* Brandon Tomahawk 2nd 2879, *d.* Preston Sue 14037 *by* Baronet of Slythehurst 2700.

3204 **R.N.**—H. L. BROOKSBANK, Sandrock, Tickhill, Yorks, for **Sandrock Duchess.**

H. C.—3207.

Large Blacks.

Class 367.—*Large Black Boars, born in or before* 1927.

3217 **I. (£10, & Champion.[3])**—JOHN WARNE & SON, Tregonhayne Manor, Tregony, Grampound Road, Cornwall, for **Trewithen Bounder** C. 853, born July 3, 1926, bred by W. Truscott, Trewithen, Sticker, St. Austell; *s.* Cargoll 12th A. 143, *d.* Trewithen Queen A. 4884 *by* Treluckey Traveller 1st 30685.

3211 **II. (£5, & R. N. for Champion.[3])**—F. W. GILBERT, The Manor, Chellaston, Derby, for **Whiteway Darkie 6th** D. 611, born May 23, 1927, bred by Major J. G. Dugdale, Whiteway Farm, Cirencester; *s.* Bardolph Jeweller B. 569, *d.* Whiteway Moonlight 11th A. 5044 *by* Cornwood Doonard 20621.

3213 **III. (£3.)**—DOUGLAS W. P. GOUGH, Pakenham Manor, Bury St. Edmunds, for **Valley Quality** C. 173, born Jan. 10, 1926, bred by J. C. Olver, Ladock, Cornwall; *s.* Valley Discreet A. 1397, *d.* Valley Victory 6th 123572 *by* Valley Grenadier 2nd 29115.

3219 **IV. (£2.)**—WALTER WOOLLAND, Baydon Manor, Ramsbury, Wilts, for **Redmarley Perfection 1st** B. 247, born Jan. 20, 1925, bred by A. W. Brewer, Redmarley, Newent, Glos.; *s.* McHeather Shah 6th 25355, *d.* Uffington Cygni 39162 *by* Coltishall Donkey 7725.

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[1] Silver Challenge Cup given by the National Pig Breeders' Association for the best Pig.

[2] Champion Gold Medal given by the National Pig Breeders' Association for the best Sow.

[3] Silver Challenge Cup given by the Large Black Pig Society for the best Boar. A Gold Medal was given to the Breeder of the Champion Boar.

3214 **R. N.**—R. Gynn & Son, Treslay, Camelford, Cornwall, for **Hendra Sunstar.**
H. C.—3216. **C.**—3210, 3215.

Class 368.—*Large Black Boars, born in* 1928, *before July* 1.

3226 **I. (£10.)**—Walter Woolland, Baydon Manor, Ramsbury, Wilts, for **Savernake Don Juan** E. 281, born Feb. 1, bred by the Marquis of Ailesbury, D.S.O., Savernake, Marlborough; *s.* Savernake Ranger's Model C. 907, *d.* Savernake Daffodil 2nd B. 206 *by* Savernake Emperor 30489.

3222 **II. (£5.)**—Sir Edward Mann, Bart., Thelveton Hall, Diss, Norfolk, for **Thelveton Suleiman 4th** E. 277, born Jan. 9; *s.* Newland Suleiman C. 33, *d.* Thelveton Ethel 13th C. 3318 *by* Thelveton Champion Lad 1st B. 341.

3224 **III. (£3.)**—Geoffrey G. Myatt, Beechcroft, Kilmington, Axminster, for **Kilmington Royal W.J.** E. 397, born June 1; *s.* Kibbear Royal Prior 7th C. 1131, *d.* Kilmington Sadie 2nd C. 3028 *by* Cornwood Presentation A. 1413.

3223 **R. N.**—G. W. Mitchell & Son, Foss Farm, Wilberfoss, Yorks, for **Orchard Dock.**
H. C.—3221.

Class 369.—*Large Black Boars, born in* 1928, *on or after July* 1.[1]

3229 **I. (£10.)**—John H. Glover, Cornwood, Devon, for **Cornwood J.H.** E. 437, born Aug. 8; *s.* Langland Sambo C. 847, *d.* Cornwood Lass 89th C. 3016 *by* Martham Marvel 22073.

3231 **II. (£5.)**—T. F. James, Chantersluer Farm, Norwood Hill, Horley, Surrey, for **Treluckey Right Sort** E. 305, born July 27; *s.* Treluckey Dick D. 299, *d.* Treluckey Black Lady 30th C. 2392 *by* Treluckey Pedestrian 1st B. 183.

3232 **III. (£3.)**—Frank Sainsbury, Blunts Hall, Little Wratting, Haverhill, for **Kedington Broker** E. 469, born Sept. 3; *s.* Newland Selim C. 31, *d.* Kedington Mona 2nd A. 5234 *by* Cornwood Peter 20875.

3230 **R. N.**—Douglas W. P. Gough, Pakenham Manor, Bury St. Edmunds, for **Pakenham Verey Light.**
H. C.—3227. **C.**—3228.

Class 370.—*Large Black Boars, born in* 1929.

3234 **I. (£10.)**—Harry E. Bastard, Tinten Manor, St. Tudy, Cornwall, for **Tinten Wychwood 1st** F. 21, born Jan. 3; *s.* Tinten Sambo C. 1041, *d.* Tinten Black Bess 47th 89392 *by* Westpetherwin Chief 1st 14433.

3244 **II. (£5.)**—Walter Woolland, Baydon Manor, Ramsbury, Wilts, for **Baydon Highlander 5th** F. 15, born Jan. 9; *s.* Baydon Highlander 1st D. 507, *d.* Baydon Duchess 4th D. 2844 *by* Valley Satisfied B. 595.

3242 **III. (£3.)**—John Warne & Son, Tregonhayne Manor, Tregony, Grampound Road, Cornwall, for **Treveglos Bounder** F. 1, born Jan. 12; *s.* Trewithen Bounder C. 853, *d.* Banns Ruth 3rd C. 690 *by* Treveglos Zenith 1st A. 1391.

3235 **IV. (£2.)**—Capt. Wilfrid Bruce, C.B.E., Quarry Farm, Thornbury, Bristol, for **Haseley Aramis** F. 5, born Jan. 15; *s.* Haseley Revival E. 189, *d.* Haseley Geranium 6th D. 2774 *by* Haseley Remus C. 263.

3240 **R. N.**—Henry J. Kingwell, Great Aish, South Brent, Devon, for **Brent H.J.**
H. C.—3243. **C.**—3241.

Class 371.—*Large Black Breeding Sows, born in or before* 1927.

3251 **I. (£10, & Champion.[2])**—G. W. Mitchell & Son, Foss Farm, Wilberfoss, York, for **Orchard Beverley 8th** B. 478, born Jan. 2, 1925, farrowed Feb. 9; *s.* Roundham Premier 26521, *d.* Orchard Beverley 1st 105830 *by* Menna Royal Sovereign 1st 18493.

3250 **II. (£5.)**—R. Gynn & Son, Treslay, Camelford, Cornwall, for **Treslay Sapphire 2nd** C. 1868, born July 28, 1926, farrowed Jan. 8; *s.* Treslay Blue Blood 1st B. 477, *d.* Treslay Winsome 1st B. 14 *by* Westpetherwin General A. 111.

3255 **III. (£3.)**—Walter Woolland, Baydon Manor, Ramsbury, Wilts, for **Savernake Daffodil 2nd** B. 206, born Jan. 8, 1925, farrowed Jan. 10, bred by the Marquis of Ailesbury, D.S.O., Savernake, Marlborough; *s.* Savernake Emperor 30489, *d.* Hattingley Daffodil 6th 103018 *by* Lynchmere Conqueror 1st 19325.

3245 **IV. (£2.)**—The Earl of Dartmouth, K.C.B., Patshull Home Farm, Wolverhampton, for **Patshull Lassie 5th** C. 148, born Jan. 2, 1926, farrowed Jan. 4; *s.* Martham Dictator A. 263, *d.* Maxwelltoun Lassie 63rd A. 100792 *by* Cornwood Marvel 4th 21635.

3247 **R. N.**—F. W. Gilbert, The Manor, Chellaston, Derby, for **Chellaston Duncathra 5th.**
H. C.—3246. **C.**—3254.

Class 372.—*Large Black Sows, born in* 1928, *before July* 1.

3266 **I. (£10, & R. N. for Champion.[2])**—Walter Woolland, Baydon Manor, Ramsbury, Wilts, for **Baydon Nightingale 52nd** E. 162, born Jan. 15; *s.* Valley General 2nd 25401, *d.* Baydon Nightingale 17th B. 2588 *by* Drayton Royal's Son 3rd 27581.

3256 **II. (£5.)**—The Earl of Dartmouth, K.C.B., Patshull Home Farm, Wolverhampton, for **Patshull Bangle 19th** E. 448, born Feb. 10; *s.* Patshull Prince 1st B. 405, *d.* Patshull Bangle 1st B. 156 *by* McHeather Bob 40th 26963.

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[1] Prizes given by the Large Black Pig Society.

[2] Silver Challenge Cup given by the Large Black Pig Society for the best Sow. A Gold Medal was given to the Breeders of the Champion Sow.

3259 **III.** (**£3.**)—John H. Glover, Cornwood, Devon, for **Cornwood Lass 92nd** E. 50, born Feb. 1; *s.* Kibbear Royalist 8th D. 89, *d.* Cornwood Lass 89th C. 3016 *by* Martham Marvel 22073.

3261 **IV.** (**£2.**)—Douglas W. P. Gough, Pakenham Manor, Bury St. Edmunds, for **Banns Pearl 1st** E 46, born Jan. 3, bred by W. Hoskin, Banns Farm, St. Buryan, Cornwall; *s.* Trewithen Prince 2nd C. 275, *d.* Banns Biddy 2nd C. 4332 *by* Fentongollan Amir 2nd B. 429.

3262 **V.** (**£1.**)—R. Gynn & Son, Treslay, Camelford, Cornwall, for **Treslay Lass 4th** E. 512, born Jan. 5; *s.* Hendra Sunstar D. 5, *d.* Treslay Sapphire 1st C. 1866 *by* Treslay Blue Blood 1st B. 477.

3258 **R. N.**—F. W. Gilbert, The Manor, Chellaston, Derby, for **Treluckey Lady 15th.**

H. C.—3267. **C.**—3263, 3264, 3265.

Class 373.—*Large Black Sows, born in* 1928, *on or after July* 1.

3271 **I.** (**£10.**)—Douglas W. P. Gough, Pakenham Manor, Bury St. Edmunds, for **Pakenham Rosette 1st** E. 1342, born July 4; *s.* Valley Quality C. 173, *d.* Pakenham Rose 1st C. 2964 *by* Awton Sampson 21891.

3275 **II.** (**£5.**)—Walter Woolland, Baydon Manor, Ramsbury, Wilts, for **Baydon Nightingale 60th** E. 1248, born Sept. 24; *s.* Kibbear Royal Prior 4th A. 1225, *d.* Baydon Nightingale 22nd C. 3098 *by* Valley General 2nd 25401.

3268 **III.** (**£3.**)—The Earl of Dartmouth, K.C.B., Patshull Home Farm, Wolverhampton, for **Patshull Queen** E. 1514, born July 12; *s.* Patshull Heroic D. 419, *d.* Menna Queen 108th D. 1076 *by* Westpetherwin General A. 111.

3270. **R. N.**—D. S. Gough, Forest Dean, Northgate Avenue, Bury St. Edmunds, for **Bury Deep Side.**

H. C.—3269. **C.**—3273.

Class 374.—*Large Black Sows, born in* 1929.

3276 **I.** (**£10.**)—Harry E. Bastard, Tinten Manor, St. Tudy, Cornwall, for **Tinten Black Bess 62nd** F. 38, born Jan. 3; *s.* Tinten Sambo C. 1041, *d.* Tinten Black Bess 47th 89392 *by* Westpetherwin Chief 1st 14433.

3288 **II.** (**£5.**)—Walter J. Warren, Deacons Farm, Staplegrove, Taunton, for **Kibbear Peach 3rd** F. 116, born Feb. 5; *s.* Tinten Doleful Dick C. 1031, *d.* Pednor Peach B. 1996 *by* Pednor Result 1st 29381.

3287 **III.** (**£3.**)—John Warne & Son, Tregonnayne Manor, Tregony, Grampound Road, Cornwall, for **Treveglos Clematis 3rd** F. 2 born Jan. 20; *s.* Trewithen Bounder C. 853, *d.* Valley Clematis 16th A. 5782 *by* Valley Sportsman 23735.

3281 **IV.** (**£2.**)—R. Gynn & Son, Treslay, Camelford, Cornwall, for **Treslay Lass 6th** F. 118, born Jan. 20; *s.* Hendra Sunstar D. 5, *d.* Treslay Sapphire 1st C. 1866 *by* Treslay Blue Blood 1st B. 477.

3285 **V.** (**£1.**)—G. W. Mitchell & Son, Foss Farm, Wilberfoss, York, for **Orchard Beverley 30th** F. 108, born Jan. 2; *s.* Treveglos Laddie 10th D. 365, *d.* Orchard Beverley 7th B. 310 *by* Fentongollan Hostage 23921.

3289 **R. N.**—Walter Woolland, Baydon Manor, Ramsbury, Wilts, for **Baydon Duchess 5th.**

H. C.—3282. **C.**—3279.

3226, 3255, 3266 **Gold Vase.**[1]—Walter Woolland, for **Savernake Don Juan, Savernake Daffodil 2nd** and **Baydon Nightingale 52nd.**

3211, 3247, 3258 **R. N. for Gold Vase.**[1]—F. W. Gilbert, for **Whiteway Darkie 6th, Chellaston Duncathra 5th** and **Treluckey Lady 15th.**

Gloucestershire Old Spots.

Class 375.—*Gloucestershire Old Spots Boars, born in or before* 1927.

3290 **I.** (**£10, Champion,[2] & Champion.[3]**)—Henry Matthews, Down Farm, Winterbourne, Bristol, for **Downside Earl** 5731, born July 22, 1926, bred by the Downside College, Somerset; *s.* Downside Sargent 5476, *d.* Downside Judy X. 339.

Class 376.—*Gloucestershire Old Spots Boars, born in* 1928.[4]

3204 **I.** (**£10.**)—Henry Matthews, Down Farm, Winterbourne, Bristol, for **Knowle Henry** Z. 445, born Aug. 26, bred by E. T. Addams-Williams, The Knowle, Monmouth; *s.* Hempstead Jim 1st 5586, *d.* Maidon Bradley Stylish X. 981 *by* Clapcote Madoc 5413.

3291 **II.** (**£5.**)—E. T. Addams-Williams, The Knowle, Monmouth, for **Knowle Sam** 5852, born Aug. 26; *s.* Hempstead Jim 1st 5586, *d.* Thornbury Bargain X. 490 *by* Estacott Roger 5393.

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[1] The "Baydon" Gold Vase given through the Large Black Pig Society for the best Group consisting of one Boar from Classes 367, 368, or 369; one Breeding Sow from Class 371; and one Sow from Classes 371, 372, or 373.

[2] Silver Challenge Cup given through the Gloucestershire Old Spots Pig Society for the best Boar.

[3] Perpetual Silver Challenge Cup given through the Gloucestershire Old Spots Pig Society for the best Pig.

[4] Prizes given by the Gloucestershire Old Spots Pig Society.

3293 **III. (£3.)**—Bennett & Howard, Quarry Farm, Thornbury, Bristol, for **Thornbury Dapple** 5860, born Aug. 16; *s.* Dumbleton Rambler 5748, *d.* Thornbury Baffle Z. 033 *by* Maiden Bradley Doctor 5599.

3295 **R. N.**—Sherriff & Sons, Lemsford, Hatfield, for **Nashes Bruce 3rd.**

Class 377.—*Gloucestershire Old Spots Boars, born in* 1929.

3300 **I. (£10, & R. N. for Champion.[1])**—Sherriff & Sons, Lemsford, Hatfield, for **Nashes Duke 16th** 5864, born Jan. 1; *s.* Hempstead Spot 5619, *d.* Nashes Duchess 40th Z. 278 *by* Eastacott Defiance 5607.

3298 **II. (£5.)**—Bennett & Howard, Quarry Farm, Thornbury, Bristol, for **Holmwood Lilywhite 4th** 5868, born Jan. 20, bred by Stanley H. Badock, Westbury-on-Trym, Bristol; *s.* Downside Earl 5731, *d.* Holmwood Beam X. 809 *by* Thornbury Buffalo 5542.

3301 **III. (£3.)**—J. F. Wright, Olton Farm, Solihull, Warwickshire, for **Solihull Joe** 5870, born Feb. 3; *s.* Solihull Punch 5774, *d.* Solihull Josephine 5th Z. 270 *by* Solihull Jock 5666.

3299 **R. N.**—Henry Matthews, Down Farm, Winterbourne, Bristol, for **Winterbourne Earl.**

Class 378.—*Gloucestershire Old Spots Breeding Sows, born in or before* 1927.

3304 **I. (£10, Champion,[2] & R. N. for Champion.[3])**—Sherriff & Sons, Lemsford, Hatfield, for **Nashes Duchess 40th** Z. 2278, born July 3, 1927, farrowed Jan. 1; *s.* Eastacott Defiance 5607, *d.* Nashes Duchess 27th X. 497 *by* Nashes Premier 2nd 5423.

3303 **II. (£5.)**—W. T. & A. G. Bailey, Grist House Farm, Hemel Hempstead, for **Hempstead Daphne 13th** X. 759, born Jan. 1, 1926, farrowed Jan. 3; *s.* Hempstead General 5498, *d.* Hempstead Daphne 3rd X. 540 *by* Nashes Major 1st 4945.

3305 **III. (£3.)**—J. F. Wright, Olton Farm, Solihull, Warwickshire, for **Mitcheltroy Lady** Z. 227, born July 3, 1927, farrowed March 3, bred by F. G. Jones, Mitcheltroy, Monmouth; *s.* Hempstead Jim 1st 5586, *d.* Mitcheltroy Magpie 13426 *by* Birdlip Boss 1675.

3302 **R. N.**—E. T. Addams-Williams, The Knowle, Monmouth, for **Holmwood Beam.**

Class 379.—*Gloucestershire Old Spots Sows, born in* 1928.

3308 **I. (£10, & R. N. for Champion.[2])**—Bennett & Howard, Quarry Farm, Thornbury, Bristol, for **Thornbury Bar-nine** Z. 282, born Jan. 4; *s.* Dumbleton Rambler 5748, *d.* Thornbury Bar-two X. 228 *by* Ayot Page 5069.

3310 **II. (£5.)**—Sherriff & Sons, Lemsford, Hatfield, for **Nashes Blossom 27th** Z. 307, born Jan. 12; *s.* Nashes Duke 8th 5646, *d.* Nashes Blossom 23rd X. 527 *by* Dorset Diver 4401.

3311 **III. (£3.)**—J. F. Wright, Olton Farm, Solihull, Warwickshire, for **Solihull Josephine 6th** Z. 383, born July 2; *s.* Maiden Bradley Submarine 2nd 5720, *d.* Ithells Josephine 23rd 16436 *by* White House Duke 4293.

3312 **R. N.**—J. F. Wright, for **Solihull Maid 1st.**

H. C.—3307. **C.**—3309.

Class 380.—*Gloucestershire Old Spots Sows, born in* 1929.

3313 **I. (£10.)**—W. T. & A. G. Bailey, Grist House Farm, Hemel Hempstead, for **Hempstead Daphne 38th** Z. 434, born Jan. 3; *s.* Holmwood Wight 5657, *d.* Hempstead Daphne 3rd X. 540 *by* Nashes Major 1st 4945.

3316 **II. (£5.)**—Sherriff & Sons, Lemsford, Hatfield, for **Nashes Duchess 46th** Z. 448, born Jan. 1; *s.* Hempstead Spot 5619, *d.* Nashes Duchess 40th Z. 278 *by* Eastacott Defiance 5607.

3317 **III. (£3.)**—J. F. Wright, Olton Farm, Solihull, Warwickshire, for **Solihull Josephine 7th** Z. 446, born Feb. 3; *s.* Solihull Punch 5774, *d.* Solihull Josephine 5th Z. 270 *by* Solihull Jock 5666.

3315 **R. N.**—Henry Matthews, Down Farm, Winterbourne, Bristol, for **Winterbourne Wallflower 4th.**

Cumberlands.

Class 381.—*Cumberland Boars, born in or before* 1927.

3318 **I. (£10, & Champion.[4])**—W. Bainbridge & Sons, Woodside Farm, Temple Sowerby, Penrith, for **Lonning Joker** 8214 (G.H.L.—J. 10), born July 23, 1927, bred by H. L. Gardhouse, Lonning Farm, Wigton; *s.* Aglionby David 6780, *d.* Lonning Daisy 7055 *by* Aglionby Express 2nd 6347.

Class 382.—*Cumberland Boars, born in* 1928.[5]

3319 **I. (£10.)**—W. Bainbridge & Sons, Woodside Farm, Temple Sowerby, Penrith, for **Woodside Knight 2nd** 8274 (B.W.W.—K. 19), born Feb. 19, 1928; *s.* Thornby Roy 7560, *d.* Woodside Heather 6966 *by* Stackhouse Monarch 5865.

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[1] Silver Challenge Cup given through the Gloucestershire Old Spots Pig Society for the best Boar.

[2] Perpetual Silver Challenge Cup given through the Gloucestershire Old Spots Pig Society for the best Sow.

[3] Perpetual Silver Challenge Cup given by the Gloucestershire Old Spots Pig Society for the best Pig.

[4] Silver Challenge Cup given by the Cumberland Pig Breeders' Association for the best Pig.

[5] Prizes given by the Cumberland Pig Breeders' Association.

3320 II. (£5.)—William James, Salmon Hall, Howden-le-Wear, Co. Durham, for **Lonning Kodak** (G.H.L.—K. 11), born July 23, 1928, bred by H. L. Gardhouse, Lonning Farm, Wigton; *s.* Bowston Grenadier 6373, *d.* Gay Lass 7050 *by* Croft Captain 5776.

Class 383.—*Cumberland Boars, born in* 1929.

3324 I. (£10.)—Henry L. Gardhouse, Lonning Farm, Wigton, for **Lonning Lancelot** (G.L.H.—L. 12), born Jan. 24; *s.* Bowston Grenadier 6373, *d.* Lonning Judith 8362 *by* Aglionby David 6780.

3321 II. (£5.)—W. Bainbridge & Sons, Woodside Farm, Temple Sowerby, Penrith, for **Woodside Link** (B.W.W.—L. 25), born Jan. 28; *s.* Lonning Joker 8214, *d.* Woodside Evie 8297 *by* Woodside Jester 6464.

3326 III. (£3.)—John S. Jordan, The Granary, Kendal, for **Bowston Leslie** (J.O.R.—L. 4), born Jan. 26; *s.* Drumleaning Anchor 8171, *d.* Wampool Nora 7980 *by* Bowston Grenadier 6373.

3322 IV. (£2.)—Harold G. Cousins, Abram Heights, Lancaster, for **Westbourne Might** (C.S.N.—L. 2), born Feb. 5; *s.* Lonning Joker 8214, *d.* Westbourne Meg 7683 *by* Henhurst Flash Boy 5804.

Class 384.—*Cumberland Breeding Sows, born in or before* 1927.

3331 I. (£10.)—Harold G. Cousins, Abram Heights, Lancaster, for **Westbourne Meg** 7683 (C.S.N.—I. 5), born Jan. 1, 1927, farrowed Feb. 5, *s.* Henhurst Flash Boy 5804, *d.* Maud 6263 *by* Syke House Hero 3977.

3333 II. (£5.)—John S. Jordan, The Granary, Kendal, for **Wampool Nora** 7980 (R.S.B.—J. 18), born March 18, 1927, farrowed Jan. 20, bred by G. Robinson, Wampool, Kirkbride; *s.* Bowston Grenadier 6373, *d.* Bowston Geranium 6604 *by* Premier of Blackcombe 5841.

3330 III. (£3.)—W. Bainbridge & Sons, Woodside Farm, Temple Sowerby, Penrith, for **Woodside Heather** 6066 (B.W.W.—H. 21), born Feb. 19, 1926, farrowed Jan. 26; *s.* Stackhouse Monarch 5865, *d.* Moorish Maid 5895 *by* Wyndham Hero 3998.

Class 385.—*Cumberland Sows, born in* 1928.

3337 I. (£10, & R. N. for Champion.[1])—J. B. Smalley, Birkby Hall, Cark-in-Cartmel, for **Bowston Kathleen** (J.O.R.—K. 5), born July 3, bred by John S. Jordan, The Granary, Kendal; *s.* Drumleaning Anchor 8171, *d.* Wampool Nora 7980 *by* Bowston Grenadier 6373.

3334 II. (£5.)—W. Bainbridge & Sons, Woodside Farm, Temple Sowerby, Penrith, for **Lonning Kitty** 8364 (G.H.L.—K. 5), born Jan. 21, bred by H. L. Gardhouse, Lonning Farm, Wigton; *s.* Bowston Grenadier 6373, *d.* Gay Lass 7050 *by* Croft Captain 5776.

3338 III. (£3.)—J. B. Smalley, for **Lonning Kate** 8363 (G.H.L.—K. 6), born Jan. 21, bred by H. L. Gardhouse, Lonning Farm, Wigton; *s.* Bowston Grenadier 6373, *d.* Gay Lass 7050 *by* Croft Captain 5776.

3339 R. N.—G. A. Wilson, Beckside Farm, Troutbeck, Windermere, for **High Grounds Bet 6th.**

Class 386.—*Cumberland Sows, born in* 1929.

3345 I. (£10.)—John S. Jordan, The Granary, Kendal, for **Bowston Lass** (J.O.R.—L. 6), born Jan. 26; *s.* Drumleaning Anchor 8171, *d.* Wampool Nora 7980 *by* Bowston Grenadier 6373.

3343 II. (£5.)—Henry L. Gardhouse, Lonning Farm, Wigton, for **Lonning Lila** (G.H.L.—L. 19), born Jan. 24; *s.* Bowston Grenadier 6373, *d.* Lonning Judith 8362 *by* Aglionby David 6780.

3342 III. (£3.)—Henry L. Gardhouse, for **Lonning Lena** (G.H.L.—L. 18), born Jan. 24; *s.* Bowston Grenadier 6373, *d.* Lonning Judith 8362 *by* Aglionby David 6780.

3340 IV. (£2.)—W. Bainbridge & Sons, Woodside Farm, Temple Sowerby, Penrith, for **Woodside Lorna** (B.W.W.—L. 12), born Jan. 21; *s.* Lonning Joker 8214, *d.* Woodside Kara 8305 *by* Thornby Roy 7560.

3348 R. N.—Victor Watson, West Witton Row, Witton-le-Wear, Co. Durham, for **Witton Row Maid.**

Essex.

Class 387.—*Essex Boars, born in or before* 1927.

3350 I. (£10.)—Harold S. Storey, Harewood, Leeds, for **Galleywood Turk 10th** 3243 (193), born Jan. 2, 1927, bred by W. Lawrence Taylor, Lathcotes, Galleywood, Chelmsford; *s.* Joe of Galleywood 2913, *d.* Galleywood Lake 17th 15550 *by* Walden Generosity 993.

3349 II. (£5.)—H. S. Ashton, Trueloves, Ingatestone, Essex, for **Howlett's Hard-to-find** 3323 (226), born March 1, 1927, bred by P. Maclure, Howletts Hall, Blackmore, Ingatestone; *s.* Ulting Flick 3063, *d.* Fryerning Fishergirl 11502 *by* Walden Generosity 993.

3351 III. (£3.)—J. Reginald Tinney, Church End, Rickling, Newport, Essex, for **Rickling Sultan 3rd** 3187 (10442), born Jan. 7, 1926; *s.* Barling Sultan 1493, *d.* Rickling Susie 11450 *by* Barnston Reignier 771.

Class 388.—*Essex Boars, born in* 1928.

3355 I. (£10.)—J. Reginald Tinney, Church End, Rickling, Newport, Essex, for **Rickling Angus 21st** 3555 (236), born May 22; *s.* Cressing Angus 4th 1985, *d.* Rickling Treasure 13th 17576 *by* Cressing Claudius 2nd 2267.

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[1] Silver Challenge Cup given by the Cumberland Pig Breeders' Association for the best Pig.

3353 **II. (£5.)**—WILLIAM RITCHIE, Marks Hall, Margaret Roding, Dunmow, for **Beauchamp Kaiser 1st** 3563 (347), born July 17, bred by T. Latham, Long Barnes, Beauchamp Roothing, Essex; *s.* Peace Kaiser 3233, *d.* Beauchamp Betty 2nd 19858 *by* Tewes Laughter 1953.

3354 **III. (£3.)**—WILLIAM RITCHIE, for **Roothing Laughter 17th** 3537 (345), born July 15; *s.* Laughter of Roothing 3333, *d.* Roothing Lilac 2nd 18058 *by* Copyhold Generosity 2nd 2841.

Class 389.—*Essex Boars, born in* 1929.

3356 **I. (£10.)**—H. S. ASHTON, Trueloves, Ingatestone, Essex, for **Trueloves Charity** 3593 (369), born Jan. 30; *s.* Roothing Laughter 13th 3209, *d.* Trueloves Ladyship 18116 *by* Barling Governor 2493.

3361 **II. (£5.)**—J. REGINALD TINNEY, Church End, Rickling, Newport, Essex, for **Rickling Gay Lad 2nd** 3597 (359), born Jan. 29; *s.* Peadowns Gay Lad 1st 3327, *d.* Rickling Alexandra 7th 19110 *by* Cressing Angus 4th 1985.

3357 **III. (£3.)**—KEMSLEY & KEMSLEY, Crouchmans Farm, Shoeburyness, for **Barling Stealaway** 3587 (370), born Jan. 17; *s.* Cressing Jay 6th 3439, *d.* Barling Lonesome 19614 *by* Pan Ernest 2693.

Class 390.—*Essex Breeding Sows, born in or before* 1927.

3363 **I. (£10, & R. N. for Champion.[1])**—KEMSLEY & KEMSLEY, Crouchmans Farm, Shoeburyness, for **Barling Wild Wave** 15952 (10263), born April 9, 1925, farrowed Jan. 17; *s.* Cressing Duke 7th 2271, *d.* Barling Lavender 6658 *by* Chelmer Cornsack 745.

3365 **II. (£5.)**—T. H. SOCHON, Tanfield Tye, West Hanningfield, Chelmsford, for **Tanfield Ash** 18916 (1321), born May 30, 1927, farrowed Feb. 24; *s.* Galleywood Emperor 7th 2825, *d.* Ramsey Precious 14714 *by* Barling Sultan 1493.

3364 **III. (£3.)**—WILLIAM RITCHIE, Marks Hall, Margaret Roding, Dunmow, for **Roothing Biddy** 18712 (1338), born July 3, 1927, farrowed Jan. 20; *s.* Pan Ernest 2693, *d.* Barling Biddy 15948 *by* Cressing Duke 7th 2271.

3367 **R. N.**—J. REGINALD TINNEY, Church End, Rickling, Newport, Essex, for **Rickling Charlotte 6th.**

Class 391.—*Essex Sows, born in* 1928.[2]

3380 **I. (£10, & Champion.[1])**—J. REGINALD TINNEY, Church End, Rickling, Newport, Essex, for **Rickling Treasure 17th** 19116 (1438), born Jan. 22; *s.* Roothing Laughter 10th 3143, *d.* Rickling Treasure 12th 17574 *by* Cressing Claudius 2nd 2267.

3375 **II. (£5.)**—T. H. SOCHON, Tanfield Tye, West Hanningfield, Chelmsford, for **Tanfield Berry** 19622 (1791), born Jan. 1; *s.* Peace King 3231, *d.* Barling Margaret 18354 *by* Barling Colonel 2793.

3378 **III. (£3.)**—J. REGINALD TINNEY, for **Rickling Charlotte 25th** 19938 (1911), born Jan. 29; *s.* Cressing Angus 4th 1985, *d.* Rickling Charlotte 6th 11466 *by* Gosfield Scout 2nd 627.

3372 **IV. (£2.)**—KEMSLEY & KEMSLEY, Crouchmans Farm, Shoeburyness, for **Barling Curlew** 19928 (1907), born May 11; *s.* Pan Ernest 2693, *d.* Barling Geraldine 15900 *by* Cressing Powerful 1983.

3373 **V. (£1.)**—KEMSLEY & KEMSLEY, for **Barling Osprey** 19128 (1560), born Jan. 3; *s.* Barling Colonel 2793, *d.* Fryerning Floret 11496 *by* Barnston Claudius 1st 7.

3374 **R. N.**—WILLIAM RITCHIE, Marks Hall, Margaret Roding, Dunmow, for **Roothing Biddy 3rd.**

H. C.—3370, 3376.

Class 392.—*Essex Sows, born in* 1929.

3383 **I. (£10.)**—KEMSLEY & KEMSLEY, Crouchmans Farm, Shoeburyness, for **Barling Bracken** 19924 (1905), born Jan. 29; *s.* Woolmer Surprise 3195, *d.* Barling Dora 15968 *by* Cressing Powerful 1983.

3388 **II. (£5.)**—J. REGINALD TINNEY, Church End, Rickling, Newport, Essex, for **Rickling Empress 20th** 19934 (1910), born Feb. 22; *s.* Barling Cadet 2797, *d.* Rickling Empress 16th 19772 *by* Cressing Angus 4th 1985.

3385 **III. (£3.)**—ALAN R. TAYLOR, Fittocks, Cheveley, Newmarket, for **Chantry Andromeda** 19896 (1887), born Jan. 7; *s.* Fryerning Duke 3295, *d.* Chantry Anchusa 18244 *by* Rickling Angus 2nd 3017.

3381 **R. N.**—H. S. ASHTON, Trueloves, Ingatestone, Essex, for **Trueloves Cactus.**

H. C.—3386, 3387.

Long White Lop-Eared.

Class 393.—*Long White Lop-Eared Boars, born in or before* 1927.

3390 **I. (£10, Champion,[3] & Champion.[4])**—GEORGE H. EUSTICE, Bezurrell Farm, Gwinear, Hayle, for **Afton Gay Boy** 1122, born Jan. 15, 1926, bred by J. H. Pearse & Sons, Afton, Totnes; *s.* Yealmpstone Sunday 958, *d.* Coryton Beauty 2663 *by* Coryton General 532.

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[1] Silver Champion Cup given by the Essex Pig Society for the best Pig.

[2] Prizes, except Fourth and Fifth, given by the Essex Pig Society.

[3] Champion Silver Medal given by the National Long White Lop-eared Pig Society for the best Boar.

[4] The "Baydon" Silver Challenge Cup given through the National Long White Lop-eared Pig Society for the best Pig.

3391 **II. (£5, & R. N. for Champion.[1])**—George H. Eustice, for **Yealmpstone Captain 1596**, born March 14, 1927, bred by W. H. Neal, Plympton, Devon; *s.* Axworthy Captain 1370, *d.* Yealmpstone Princess 4th 413 *by* Quither General 2.

3389 **III. (£3.)**—William Bracey, Manor House, Martham, Great Yarmouth, for **Flegg Confidence 1410**, born Nov. 1, 1926; *s.* Ford Confidence 1018, *d.* Godwell Mary 3893 *by* Ipplepen Sultan 552.

3393 **R. N.**—W. J. Westlake, Godwell, Ivybridge, Devon, for **Godwell King David.**

H. C.—3392.

Class 394.—*Long White Lop-Eared Boars, born in* 1928.

3394 **I. (£10.)**—George H. Eustice, Bezurrell Farm, Gwinear, Hayle, for **Bezurrell Bacon Boy 10th 1802**, born Jan. 29; *s.* Afton Gay Boy 1122, *d.* Bezurrell Tulip 4th 3793 *by* Tracey Wonderment 180.

3395 **II. (£5.)**—George H. Eustice, for **Bezurrell Hero 1688**, born Jan. 7; *s.* Erme Hero 1st 1056, *d.* Bezurrell Mary 4th 4821 *by* Afton Gay Boy 1122.

3396 **III. (£3.)**—W. J. Westlake, Godwell, Ivybridge, Devon, for **Elwell Marvel 1780**, born June 25, bred by A. T. Rogers, Elwell, Avonwick, Devon; *s.* Woolston Court General 1108, *d.* Harberton Bo-Peep 799.

Class 395.—*Long White Lop-Eared Boars, born in* 1929.

3401 **I. (£10.)**—Capt. N. Milne-Harrop, Garthgynan, Ruthin, North Wales, for **Gwersyllt Captain 1st 1826**, born Jan. 2; *s.* Axworthy Captain 1370, *d.* Gwersyllt Beauty 2nd 5333 *by* Priory Masterpiece 1084.

3397 **II. (£5.)**—William Bracey, Manor House, Martham, Great Yarmouth, for **Flegg Aristocrat 1852**, born Jan. 12; *s.* Flegg Confidence 1410, *d.* Flegg White Heather 2nd 4941 *by* Yealmpstone Pan Yan 148.

3402 **III. (£3.)**—Capt. N. Milne-Harrop, for **Gwersyllt Captain 2nd 1828**, born Jan. 4; *s.* Axworthy Captain 1370, *d.* Gwersyllt Beauty 1st 4595 *by* Yealmpstone Ben 3rd 938.

3403 **R. N.**—W. J. Westlake, Godwell, Ivybridge, Devon, for **Godwell King David 2nd.**

H. C.—3399, 3400.

Class 396.—*Long White Lop-Eared Breeding Sows, born in or before* 1927.

3405 **I. (£10, Champion,[2] & R. N. for Champion.[3])**—Capt. N. Milne-Harrop, Garthgynan, Ruthin, North Wales, for **Gwersyllt Beauty 2nd 5333**, born Aug. 19, 1927, farrowed Jan. 2; *s.* Priory Masterpiece 1084, *d.* Godwell Beauty 5th 3763 *by* Ipplepen Sultan 552.

3406 **II. (£5.)**—A. Partridge & Sons, Mordref, Plympton, Devon, for **Priory Princess 5th 4295**, born Sept. 2, 1925, farrowed Jan. 15; *s.* Forda Marvel 268, *d.* Forda Princess 3213 *by* Erme General 166.

3407 **III. (£3.)**—W. J. Westlake, Godwell, Ivybridge, Devon, for **Godwell Princess 13th 4865**, born Aug. 19, 1926, farrowed Jan. 3, bred by W. J. Westlake & Son, Godwell Farm; *s.* Lukesland Hero 342, *d.* Yealmpstone Princess 5th 411 *by* Quither General 2.

Class 397.—*Long White Lop-Eared Sows, born in* 1928.[4]

3408 **I. (£10, & R.N. for Champion.[3])**—William Bracey, Manor House, Martham, Great Yarmouth, for **Flegg White Heather 7th 5527**, born Jan. 13; *s.* Flegg Confidence 1410, *d.* Flegg White Heather 2nd 4941 *by* Yealmpstone Pan Yan 148.

3412 **II. (£5.)**—W. J. Westlake, Godwell, Ivybridge, Devon, for **Godwell Primrose 5th 5787**, born Jan. 8, bred by W. J. Westlake & Son, Godwell Farm; *s.* Godwell Sultan 2nd 1114, *d.* Godwell Beauty 8th 4859 *by* Yealmpstone Ben 3rd 938.

3411 **III. (£3.)**—A. Partridge & Sons, Mordref, Plympton, Devon, for **Priory Lassie 7th 5581**, born Feb. 1; *s.* Priory Millman 7th 1216, *d.* Priory Amiable 14th 4601 *by* Zuither Marquis 7th 746.

3410 **R. N.**—Capt. N. Milne-Harrop, Garthgynan, Ruthin, North Wales, for **Gwersyllt Beauty 6th.**

H. C.—3409.

Class 398.—*Long White Lop-Eared Sows, born in* 1929.

3416 **I. (£10.)**—Capt. N. Milne-Harrop, Garthgynan, Ruthin, North Wales, for **Gwersyllt Beauty 8th 5868**, born Jan. 2; *s.* Axworthy Captain 1370, *d.* Gwersyllt Beauty 2nd 5333 *by* Priory Masterpiece 1084.

3414 **II. (£5.)**—George H. Eustice, Bezurrell Farm, Gwinear, Hayle, for **Bezurrell Millie 1st 5879**, born Jan. 3; *s.* Afton Baron 1604, *d.* Bezurrell Mona 5578 *by* Erme Hero 1st 1056.

3417 **III. (£3.)**—A. Partridge & Sons, Mordref, Plympton, Devon, for **Priory Lassie 9th 5917**, born Jan. 18; *s.* Priory Millman 7th 1216, *d.* Priory Amiable 14th 4601 *by* Zuither Marquis 746.

3415 **R. N.**—George H. Eustice, for **Bezurrell Molly 1st.**

H. C.—3413, 3418.

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[1] Champion Silver Medal given by the National Long White Lop-eared Pig Society for the best Boar.

[2] Champion Silver Medal given by the National Long White Lop-eared Pig Society for the best Sow.

[3] The "Baydon" Silver Challenge Cup given through the National Long White Lop-eared Pig Society for the best Pig.

[4] Prizes given by the National Long White Lop-eared Pig Society.

FARM AND DAIRY PRODUCE OF THE UNITED KINGDOM.

Butter.

Class 399.—*Two Pounds of Fresh Butter, without any salt, made up in plain pounds, from the milk of Channel Island, Devon or South Devon Cattle and their crosses.*

14 I. (£4.)—John Northcott, Colsloggett, Bodmin.
12 II. (£2.)—J. Pierpont Morgan, Wall Hall, Watford.
9 III. (£1.)—Mrs. Hodgson, Rectory Farm, Low Catton, Stamford Bridge, York.
11 IV. (10s.)—Mrs. L. Matthews, Kilkhampton, viâ Holsworthy.
8 V. (5s.)—The Earl of Guilford, Waldershare Park, Dover.
1 R. N.—His Majesty The King, Sandringham.
H. C.—6. C.—10.

Class 400.—*Two Pounds of Fresh Butter, without any salt, made up in plain pounds, from the milk of cattle of any breed or cross other than those mentioned in Class* 399.

19 I. (£4.)—Mrs. Hill, Smallwood, Sandbach, Cheshire.
27 II. (£2.)—Miss A. M. Ward, Foggathorpe Hall Farm, Selby.
24 III. (£1.)—Miss S. H. Robinson, Red House Farm, Liverton, Loftus.
20 IV. (10s.)—Miss Rachel James, Llancayo, Usk, Mon.
26 R. N.—Mrs. Turner, Newton Hall Farm, Ripley, Harrogate.
H. C.—18, 22, 28.

Class 401.—*Two Pounds of Fresh Butter, slightly salted, made up in plain pounds, from the milk of Channel Island, Devon or South Devon Cattle and their crosses.*

41 I. (£4.)—John Northcott, Colsloggett, Bodmin.
29 II. (£2.)—His Majesty The King, Sandringham.
38 III. (£1.)—Mrs. L. Matthews, Kilkhampton, viâ Holsworthy.
34 IV. (10s.)—The Earl of Guilford, Waldershare Park, Dover.
44 V. (5s.)—Mrs. John Way, West Bridge, Bishopsnympton, Devon.
35 R. N.—Miss Ida Hodgson, Rectory Farm, Low Catton, Stamford Bridge, York.
H. C.—36. C.—30, 32.

Class 402.—*Two Pounds of Fresh Butter, slightly salted, made up in plain pounds, from the milk of cattle of any breed or cross other than those mentioned in Class* 401.

48 I. (£4.)—Mrs. Hill, Smallwood, Sandbach, Cheshire.
53 II. (£2.)—Miss S. H. Robinson, Red House Farm, Liverton, Loftus.
57 III. (£1.)—Miss A. M. Ward, Foggathorpe Hall Farm, Selby.
45 IV. (10s.)—Mrs. W. C. Davies, Pentwyn, Llanddew, Brecon.
47 V. (5s.)—Mrs. A. C. Forge, Birthwaite Farm, Ripley, Harrogate.
49 R. N.—Miss Rachel James, Llancayo, Usk, Mon.
H. C.—46, 51, 54, 59.

Class 403.—*Three Pounds of Fresh Butter, slightly salted, made up in pounds in the most attractive marketable designs.*

72 I. (£4.)—Mrs. John Way, West Bridge, Bishopsnympton, Devon.
71 II. (£2.)—Miss A. M. Ward, Foggathorpe Hall Farm, Selby.
63 III. (£1.)—Mrs. Hill, Smallwood, Sandbach, Cheshire.
61 IV. (10s.)—Mrs. E. B. Beer, Puddaven, Totnes.
73 V. (5s.)—Miss Betty Williams, Conyngham Hall Dairy, Knaresborough.
60 R. N.—His Majesty The King, Sandringham.
H. C.—67. C.—62.

Cheese.

Made in 1929.

Class 404.—*Two Cheshire Cheeses, Coloured, not less than* 40 *lb. each.*

88 I. (£5.)—W. E. Moore, Baddiley Farm, Nantwich.
82 II. (£3.)—W. H. Hobson, Woodhey Hall, Nantwich.
91 III. (£2.)—P. H. Walley, Towns Green, Wettenhall, Winsford.
81 IV. (10s.)—Oliver Hesketh, Cholmondeston, Winsford.

76 V. (5s.)—T. BOURNE, The Grange, Baddington, Nantwich.
84 R. N.—FRED HUNTBACH, Moor Hall, Aston, Nantwich.
H. C.—75, 85, 87, 90, 93. C.—74, 77, 80, 89, 92.

Class 405.—*Two Cheshire Cheeses, Uncoloured, not less than* 40 *lb. each.*

96 I. (£5.)—W. H. HOBSON, Woodhey Hall, Nantwich.
100 II. (£3.)—W. E. MOORE, Baddiley Farm, Nantwich.
97 III. (£2.)—FRED HUNTBACH, Moor Hall, Aston, Nantwich.
95 IV. (10s.)—OLIVER HESKETH, Cholmondeston, Winsford.
99 R. N.—F. A. MOORE, The Grange, Checkley, Nantwich.
H. C.—103. C.—94.

Class 406.—*Two Lancashire Cheeses, not exceeding* 12 *lb. each.*

106 I. (£5.)—M. PARKINSON, Moss Farm, Salwick, Preston.
107 II. (£3.)—RICHARD PARKINSON, Wychnor, Lightfoot Lane, Broughton, Preston.
104 III. (£2.)—JAMES COWPE, Fir Trees Farm, Goosnargh, Preston.
108 R. N.—SAMUEL SALTHOUSE, Roseacre Farm, Roseacre, Kirkham.

Class 407.—*Two Cheddar Cheeses, not less than* 50 *lb. each.*

116 I. (£5.)—SIDNEY T. WHITE, Sock Dennis Farm, Ilchester.
109 II. (£3.)—JOHN GIBSON, Dryburgh Dairy, Castle Douglas.
110 III. (£2.)—MRS. W. HAINE, Rectory Farm, Slimbridge, Glos.
112 IV. (10s.)—SAMUEL MCMINN, Torrs Dairy, Kirkcudbright.
113 R. N.—FRANK PORTCH, Leigh Farm, Wincanton.

Class 408.—*Two Cheddar Truckles.*

126 I. (£5.)—SIDNEY T. WHITE, Sock Dennis Farm, Ilchester.
120 II. (£3.)—MRS. W. HAINE, Rectory Farm, Slimbridge, Glos.
124 III. (£2.)—FRANK PORTCH, Leigh Farm, Wincanton.
125 IV. (10s.)—MRS. JOHN TAYLOR, White House Farm, Earthcott Green, Alveston, Glos.
121 R. N.—MRS. HARRIS, Glenusk, Nantyderri, Abergavenny.

Class 409.—*Two Stilton Cheeses.*

136 I. (£5.)—MISSES M. F. and J. WEBSTER, Saxelbye, Melton Mowbray.
132 II. (£3.)—J. M. NUTTALL & CO., LTD., Dove Dairy, Hartington, Buxton.
131 III. (£2.)—H. G. LUKER, Hose Co-operative Dairy, Hose, Melton Mowbray.
129 IV. (10s.)—EMBERLIN & CO., LTD., The Dairy, Wymeswold, Loughborough.
134 R. N.—UNITED DAIRIES (WHOLESALE), LTD., Harby, Melton Mowbray.
H. C.—137.

Class 410.—*Two Cleveland Cheeses, not less than* 8 *lb. each.*

139 I. (£5.)—MRS. J. T. GARBUTT, Street Farm, Loftus-in-Cleveland.
138 II. (£3.)—EAST ANGLIAN INSTITUTE OF AGRICULTURE, Chelmsford.
140 III. (£2.)—ROBERT HICKS, Lodge Farm, Danby, Yorks.

Class 411.—*Two Wensleydale Cheeses, Stilton shape.*

146 I. (£5.)—J. M. NUTTALL & CO., LTD., Dove Dairy, Hartington, Buxton.
151 II. (£3.)—MRS. J. WATSON, Old Hall Farm, Carlton, Middleham, Yorks.
147 III. (£2.)—ALFRED ROWNTREE & SON, Coverham, Middleham, Yorks.
148 IV. (10s.)—J. W. SIMPSON, West Arrathorne, Catterick.
149 R. N.—MRS. T. J. SMITH, Cote House Farm, Catterick.
H. C.—142.

Class 412.—*Two Caerphilly Cheeses.*

153 I. (£5.)—T. J. COLLINGS, Lower Farm, Lympsham, Weston-super-Mare.
156 II. (£3.)—MISS MORFYDD HARRY, Ruthin Farm, Llanbed, Pencoed, Bridgend.
159 III. (£2.)—MRS. JOHN, Ruthin Farm, Llanbed, Pencoed, Bridgend.
161 IV. (10s.)—MRS. LUCY LEWIS, Robin House, Burtle, Bridgewater.
164 V. (5s.)—W. SPRATT, Blue Coat Farm, Lympsham, Weston-super-Mare.
163 R. N.—MISS BEATRICE E. MORGAN, The Parsonage, Keweys, Usk, Mon.

Class 413.—*Two Small Cheeses, not exceeding* 6 *lb. each, of Cheshire or Cheddar character.*

174 I. (£4.)—SIDNEY T. WHITE, Sock Dennis Farm, Wincanton.
172 II. (£2.)—FRANK PORTCH, Leigh Farm, Wincanton.
165 III. (£1.)—CHESHIRE COUNTY COUNCIL, Reaseheath Dairy Farm, Nantwich.
168 IV. (10s.)—MRS. HARRIS, Glenusk, Nantyderri, Abergavenny.
170 R. N.—SAMUEL MCMINN, Torrs Dairy, Kirkcudbright.
H. C.—171.

Class 414.—*Two Small Cheeses, not exceeding* 6 *lb. each, of Stilton or Wensleydale character.*

187 I. (£4.)—MISSES M. F. and J. WEBSTER, Saxelbye, Melton Mowbray.
188 II. (£2.)—WEBSTER & RICHARDSON, Hickling Lodge, Kinoulton, Notts.

182 **III.** (£1.)—J. M. Nuttall & Co., Ltd., Dove Dairy, Hartington, Buxton.
184 **IV.** (10s.)—J. W. Simpson, West Arrathorne, Catterick.

Class 415.—*Two Soft Cheeses, made from whole milk.*

191 **I.** (£4.)—Jenkin Jones, Cwm, Crickhowell.
192 **II.** (£2.)—Miss B. J. Mudd, Aldborough Dairy, Boroughbridge.
190 **III.** (£1.)—Miss Rachel James, Llancayo, Usk, Mon.
193 **R. N.**—Mrs. Turner, Newton Hall Farm, Ripley, Harrogate.

Class 416.—*Two Cheeses, made from cream without the addition of rennet.*

200 **I.** (£4.)—Mrs. J. T. Garbutt, Street Farm, Loftus-in-Cleveland.
204 **II.** (£2.)—Miss B. J. Mudd, Aldborough Dairy, Boroughbridge.
195 **III.** (£1.)—His Majesty the King, Sandringham.
196 **IV.** (10s.)—Mrs. E. B. Beer, Puddaven, Totnes.
205 **V.** (5s.)—Mrs. Turner, Newton Hall Farm, Ripley, Harrogate.
206 **R. N.**—Mrs. Wilfred Wells, Wilamy Villa, Littlethorpe, Ripon.

Cider.

Class 417.—*Six Bottles of Dry Cider made in* 1928.

209 **I.** (£3), 211 **V.** (5s.), & 210 **R. N.**—Sir Ian Heathcoat Amory, Bart., Knightshayes Court, Tiverton.
221 **II.** (£2), & 222 **III.** (£1.)—Quantock Vale Cider Co., Ltd., North Petherton, Bridgwater.
225 **IV.** (10s.)—Ridler & Son, Clehonger, Hereford.
H. C.—224.

Class 418.—*Six Bottles of Sweet Cider, made in* 1928.

259 **I.** (£3), & 260 **R. N.**—Severn Vale Cider Co., Ltd., Hill House, Bushley, Tewkesbury.
232 **II.** (£2), & 233 **V.** (5s.)—Sir Ian Heathcoat Amory, Bart., Knightshayes Court, Tiverton.
255 **III.** (£1), & 254 **IV.** (10s.)—Ridler & Son, Clehonger, Hereford.
H. C.—234.

Class 419.—*Six Bottles of Cider, made previous to* 1928.

282 **I.** (£3.)—Severn Vale Cider Co., Ltd., Hill House, Bushley, Tewkesbury.
268 **II.** (£2.)—Sir Ian Heathcoat Amory, Bart., Knightshayes Court, Tiverton.
285 **III.** (£1.)—Wickwar Cider Co., Ltd., Wickwar, Glos.
278 **IV.** (10s.), & 279 **R. N.**—Ridler & Son, Clehonger, Hereford.
276 **V.** (5s.)—Quantock Vale Cider Co., Ltd., North Petherton, Bridgwater.

Wool.[1]

Of 1929 *clip.*

First Prize, £3 ; Second Prize, £2 ; Third Prize, £1 ; in each Class.

Class 420.—*Three Fleeces of Oxford Down Wool.*

292 **I.** & 291 **II.**—Hugh William Stilgoe, The Grounds, Adderbury, Banbury.
290 **III.**—J. & R. Harrison, Gainford Hall, Gainford S.O., Co. Durham.

Class 421.—*Three Fleeces of Shropshire Wool.*

293 **I.**—William Everall, Shrawardine Castle, Shrewsbury.
294 **II.**—John Minton, Dryton, Wroxeter, Shrewsbury.
298 **III.**—E. Craig Tanner, Eyton-on-Severn, Wroxeter, Shrewsbury.
295 **R. N.**—N. J. Nunnerley, Tern Hill House, Market Drayton.

Class 422.—*Three Fleeces of Southdown Wool.*

302 **I.** & **Champion,**[2] & 303 **III.**—J. Pierpont Morgan, Wall Hall, Watford.
299 **II.**—His Majesty the King, Sandringham.
300 **R. N.**—Lady Ludlow, Luton Hoo, Luton.

Class 423.—*Three Fleeces of Hampshire Down Wool.*

307 **I.**—William Todd, Little Ponton Grange, Grantham.
304 **II.** & 305 **III.**—Major and Mrs. Jervoise, Herriard Park, Basingstoke.

Class 424.—*Three Fleeces of Suffolk Wool.*

310 **I.** & 309 **II.**—Lord Treowen, C.B., C.M.G., Llanover, Abergavenny.
308 **III.**—R. H. Foa, Holywell Park, Wrotham, Kent.

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[1] The Second and Third Prizes in these Classes were given by the respective Flock Book Societies.

[2] Special Cash Prize, known as the "Merchants of the Staple of England" Prize, given for the best fleece taken from any short-woolled breed of sheep.

Class 425.—*Three Fleeces of Dorset Down Wool.*

312 I. & 313 II.—LEONARD TORY, Turnworth, Blandford.
311 III.—THE EARL OF ELGIN AND KINCARDINE, C.M.G., Broomhall, Dunfermline.

Class 426.—*Three Fleeces of Dorset Horn Wool.*

316 I. & 315 II.—ALFRED READ, Lower Farm, Hilton, Blandford.
314 III.—THE EARL OF ELGIN AND KINCARDINE, C.M.G., Broomhall, Dunfermline.

Class 427.—*Three Fleeces of Ryeland Wool.*

320 I. & 319 II., & R. N. for Champion.[1]—DAVID J. THOMAS, Monachty, Abergavenny.
318 III.—W. L. HORBURY, Ettington Park, Stratford-on-Avon.
317 R. N.—SIR WILLIAM H. AYKROYD, BART., Grantley Hall, Ripon.

Class 428.—*Three Fleeces of Kerry Hill (Wales) Wool.*

325 I. & 324 III.—THE MARQUESS OF LONDONDERRY, K.G., M.V.O., Plas, Machynlleth, Mont.
323 II. & 322 R. N.—SIR DAVID R. LLEWELLYN, BART., The Court, St. Fagans, Glam.

Class 429.—*Three Fleeces of Lincoln Wool.*

328 I.—J. W. LETT, Scagglethorpe Manor, Malton.
330 II.—MAJOR W. H. RAWNSLEY, Well Vale, Alford, Lincs.
327 III.—THOMAS CAMPION, East Heslerton, York.
329 R. N.—CLIFFORD NICHOLSON, Worlaby House, Brigg.

Class 430.—*Three Fleeces of Leicester Wool.*

333 I. & 332 II.—J. and R. HARRISON, Gainford Hall, Gainford S.O., Co. Durham.
334 III.—R. MEGGINSON, Garton Field, Driffield.

Class 431.—*Three Fleeces of Border Leicester Wool.*

(No Entry.)

Class 432.—*Three Fleeces of Wensleydale Wool.*

336 I. & Champion.[2]—HERBERT CHESTER, Home Farm, Sharrow, Ripon.
339 II.—JOHN W. GREENSIT, Holme-on-Swale, Thirsk.
340 III. & R. N. for Champion.[2]—JOHN PERCIVAL, East House, Carperby, Yorks.
335 R. N.—JOHN ALLISON, Howgrave Hall, Kirklington, Bedale.

Class 433.—*Three Fleeces of Kent or Romney Marsh Wool, from Rams of any ages.*

346 I.—J. EGERTON QUESTED, The Firs, Cheriton, Kent.
342 II.—H. B. AMOS, Repton Manor, Ashford, Kent.
345 III.—THE EARL OF GUILFORD, Waldershare Park, Dover.
344 R. N.—L. H. and G. W. FINN, The Mall, Faversham, Kent.

Class 434.—*Three Fleeces of Kent or Romney Marsh Wool, from Ewe Tegs.*

348 I.—E. W. BAKER, Parsonage Farm, Bekesbourne, Canterbury.
351 II.—CLIFFORD NICHOLSON, Worlaby House, Brigg.
352 III.—J. EGERTON QUESTED, The Firs, Cheriton, Kent.
347 R. N.—H. B. AMOS, Repton Manor, Ashford, Kent.

Class 435.—*Three Fleeces of Kent or Romney Marsh Wool, excluding Ram and Ewe Tegs.*

359 I.—J. EGERTON QUESTED, The Firs, Cheriton, Kent.
358 II.—THE EARL OF GUILFORD, Waldershare Park, Dover.
356 III. & 355 R. N.—L. H. and G. W. FINN, The Mall, Faversham.

Class 436.—*Three Fleeces of Black Welsh Mountain Wool.*

360 I.—MAJOR F. H. T. JERVOISE, Herriard Park, Basingstoke.
361 II.—MRS. JERVOISE, Herriard Park, Basingstoke.
362 III.—LORD TREOWEN, C.M., C.M.G., Llanover, Abergavenny.

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[1] Special Cash Prize, known as the "Merchants of the Staple of England" Prize, given for the best fleece taken from any short-woolled breed of sheep.

[2] Special Cash Prize, known as the "Merchants of the Staple of England" Prize, given for the best fleece taken from any long-woolled breed of sheep.

POULTRY.

By "Cock," "Hen," "Gander," and "Goose," are meant birds hatched previous to January 1, 1929; and by "Cockerel" and "Pullet" are meant birds hatched in 1929.

The Prizes in each Class are as follows: **First Prize, 40*s*. Second Prize, 30*s*. Third Prize, 20*s*. Fourth Prize, 10*s*. Fifth Prize, 5*s*.**

Special Prizes were given in the Poultry Classes by the following Clubs: Dorking, Sussex, Columbian Wyandotte, Buff Orpington, British Black Barnevelder, British Black Leghorn, Campine and Magpie Duck.

Class 437.—*Dorking Cocks.*

2 **I. & Special.**—Lord Dewar, Homestall Poultry Farm, East Grinstead.
4 **II. & 1 III.**—A. J. Major, Ditton, Langley, Bucks.
3 **R. N.**—Ralph Alty, Mill House, Croston, Preston.

Class 438.—*Dorking Hens.*

5 **I.**—Lord Dewar, Homestall Poultry Farm, East Grinstead.
8 **II.**—Ralph Alty, Mill House, Croston, Preston.
9 **III.**—A. J. Major, Ditton, Langley, Bucks.
7 **R. N.**—W. R. Oatey, 21 Richmond Hill, Truro.
H. C.—6.

Class 439.—*Dorking Cockerels.*

13 **I. & 11 II.**—A. J. Major, Ditton, Langley, Bucks.
12 **III.**—James Rogers, Forneth, Blairgowrie.

Class 440.—*Dorking Pullets.*

15 **I. & R. N. for Special.**—A. J. Major, Ditton, Langley, Bucks.
16 **II.**—Lord Dewar, Homestall Poultry Farm, East Grinstead.
17 **III.**—The Hon. Mrs. R. Greville, Polesden Lacey, Dorking.
14 **R. N.**—James Rogers, Forneth, Blairgowrie.
H. C.—18.

Class 441.—*Croad Langshan Cocks or Cockerels.*

20 **I.**—R. Anthony, Euxton, Chorley, Lancs.
21 **II.**—Lord Dewar, Homestall Poultry Farm, East Grinstead.
22 **III.**—G. Couling, Chaldon Road, Caterham, Surrey.
19 **R. N.**—Lt.-Col. G. R. B. Patten, Brockhurst, The Mount, Shrewsbury.

Class 442.—*Croad Langshan Hens or Pullets.*

24 **I.**—R. Anthony, Euxton, Chorley, Lancs.
25 **II.**—Lt.-Col. G. R. B. Patten, Brockhurst, The Mount, Shrewsbury.

Class 443.—*Brahma or Cochin Cocks or Cockerels.*

27 **I.**—Lord Dewar, Homestall Poultry Farm, East Grinstead.
26 **II.**—H. Martin Wright, The Poplars, Great Shelford, Cambs.
29 **III.**—Cook's Poultry Farm, Ltd., Orpington, Kent.
28 **R. N.**—R. Anthony, Euxton, Chorley, Lancs.
H. C.—30.

Class 444.—*Brahma or Cochin Hens or Pullets.*

35 **I.**—Lord Dewar, Homestall Poultry Farm, East Grinstead.
34 **II.**—R. Anthony, Euxton, Chorley, Lancs.
31 **III.**—T. A. Hargreaves, 9 Norfolk Road, Lytham.
32 **R. N.**—Thomas Leyson, The Leys, Forward Green, Stowmarket.
H. C.—36.

Class 445.—*Red Sussex Cocks.*

37 **I. & Special, 40 III. & 39 R. N.**—Mrs. J. G. Morris, Blewburton Hall, Aston Tirrold, Berks.
38 **II.**—Mrs. M. A. Grant, Kirby Hall, Horton Kirby, Kent.

Class 446.—*Red Sussex Hens.*

41 **I. & R. N. for Special, 45 II. & 43 III.**—Mrs. J. G. Morris, Blewburton Hall, Aston Tirrold, Berks.
42 **R. N.**—Lord Dewar, Homestall Poultry Farm, East Grinstead.
H. C.—44.

Class 447.—*Red Sussex Cockerels.*

47 **I.**—Mrs. M. A. Grant, Kirby Hall, Horton Kirby, Kent.

Class 448.—*Red Sussex Pullets.*

51 **I., 55 II. & 53 R. N.**—Mrs. J. G. Morris, Blewburton Hall, Aston Tirrold, Berks.
52 **III.**—Francis D. Watson, Croftsbank, Thornton Hough, Wirral, Cheshire.
H. C.—56.

Class 449.—*Light Sussex Cocks.*

57 **I., Special & Cup,**[1] **& 62 II.**—Mrs. J. G. Morris, Blewburton Hall, Aston Tirrold, Berks.
60 **III.**—Lord Dewar, Homestall Poultry Farm, East Grinstead.
64 **R. N.**—Mrs. M. A. Grant, Kirby Hall, Horton Kirby, Kent.
H. C.—67. **C.**—59, 63.

Class 450.—*Light Sussex Hens.*

72 **I., R. N. for Special, & R. N. for Cup,**[1] **69 II., & 75 III.**—Mrs. J. G. Morris, Blewburton Hall, Aston Tirrold, Berks.
68 **IV.**—R. Anthony, Euxton, Chorley, Lancs.
76 **V.**—Miss M. V. Larkworthy, Cooper's Bridge, Liphook.
71 **R. N.**—Mrs. M. A. Grant, Kirby Hall, Horton Kirby, Kent.
H. C.—77. **C.**—70, 73.

Class 451.—*Light Sussex Cockerels.*

84 **I.**—Miss M. V. Larkworthy, Cooper's Bridge, Liphook.
87 **II.**—The Hon. Mrs. R. Greville, Polesden Lacey, Dorking.
91 **III.**—Henry Underwood, Mowshurst Poultry Farm, Edenbridge.
82 **IV.**—R. Anthony, Euxton, Chorley, Lancs.
95 **V.**—Colin Campbell, The Willows Poultry Farm, Haxby, York.
89 **R. N.**—Mrs. M. A. Grant, Kirby Hall, Horton Kirby, Kent.
H. C.—83, 85.

Class 452.—*Light Sussex Pullets.*

115 **I.**—Mrs. M. A. Grant, Kirby Hall, Horton Kirby, Kent.
120 **II., 101 III. & 108 R. N.**—Mrs. J G. Morris, Blewburton Hall, Aston Tirrold, Berks.
116 **IV.**—A. H. Shaw, Great Ouseburn, York.
121 **V.**—W. R. Younger, Auchen Castle, Moffat.
H. C.—104. **C.**—114.

Class 453.—*Speckled Sussex Cocks.*

125 **I. & R. N. for Special.**—H. Newman, 4 Alexandra Parade, Colney Hatch Lane, Muswell Hill, London, N.
126 **II.**—Mrs. M. A. Grant, Kirby Hall, Horton Kirby, Kent.
123 **III.**—R. P. Percival, Shuttington House, Tamworth.
124 **R. N.**—D. W. Davies, Nesscliff Poultry Farm, Montford Bridge, Salop.
H. C.—128.

Class 454.—*Speckled Sussex Hens.*

133 **I.**—A. W. H. Loveless, Priors, Keston, Kent.
131 **II.**—Mrs. M. A. Grant, Kirby Hall, Horton Kirby, Kent.
129 **III.**—W. R. Abbey, Croft Farm, Hessay, York.
132 **R. N.**—J. H. Baker & Son, Windyash, Barnstaple.
H. C.—130.

Class 455.—*Speckled Sussex Cockerels.*

138 **I. & Special.**—The Hon. Mrs. R. Greville, Polesden Lacey, Dorking.
135 **II.**—W. R. Abbey, Croft Farm, Hessay, York.
136 **III.**—Mrs. M. A. Grant, Kirby Hall, Horton Kirby, Kent.
134 **R. N.**—D. W. Davies, Nesscliff Poultry Farm, Montford Bridge, Salop.

Class 456.—*Speckled Sussex Pullets.*

142 **I.**—Mrs. M. A. Grant, Kirby Hall, Horton Kirby, Kent.
143 **II.**—The Hon. Mrs. R. Greville, Polesden Lacey, Dorking.
130 **III.**—Vyvyan Harmsworth, Model Poultry Farm, Horsted Keynes, Sussex.
145 **R. N.**—D. W. Davies, Nesscliff Poultry Farm, Montford Bridge, Salop.
H. C.—144. **C.**—141.

Class 457.—*Brown Sussex Cocks.*

146 **I. & R. N. for Special, 148 II. & 149 R. N.**—Chas. Hardy, Argos Hill, Rotherfield, Sussex.
147 **III.**—The Rev. C. H. B. Trollope, Escrick Rectory, York.

Class 458.—*Brown Sussex Hens.*

150 **I., 153 III. & 152 R. N.**—Chas. Hardy, Argos Hill, Rotherfield, Sussex.
151 **II.**—Mrs. M. A. Grant, Kirby Hall, Horton Kirby, Kent.

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[1] The Crawshay Memorial Cup given through the Sussex Poultry Club for the best Light Sussex

Class 459.—*Brown Sussex Cockerels.*

155 I. & Special, & 157 III.—Chas. Hardy, Argos Hill, Rotherfield, Sussex.
154 II.—Mrs. Harold Bastow, Ray Lodge, Lingfield.

Class 460.—*Brown Sussex Pullets.*

158 I.—Vyvyan Harmsworth, Model Poultry Farm, Horsted Keynes, Sussex.
159 II. & 162 R. N.—Chas. Hardy, Argos Hill, Rotherfield, Sussex.
160 III.—Mrs. M. A. Grant, Kirby Hall, Horton Kirby, Kent.
H. C.—161.

Class 461.—*Buff Sussex Cocks or Cockerels.*

164 I. & Special.—F. W. Fitz, 3 Boreham, Warminster.
163 II. & R. N. for Special.—The Hon. Mrs. R. Greville, Polesden Lacey, Dorking.

Class 462.—*Buff Sussex Hens or Pullets.*

165 I.—The Hon. Mrs. R. Greville, Polesden Lacey, Dorking.

Class 463.—*White Sussex Cocks or Cockerels.*

167 I. & Special.—Lord Dewar, Homestall Poultry Farm, East Grinstead.
166 II.—George P. Isherwood, Ravensdale, High Halden, Ashford, Kent.

Class 464.—*White Sussex Hens or Pullets.*

170 I. & R. N. for Special.—George P. Isherwood, Ravensdale, High Halden, Ashford, Kent.
168 II.—Vyvyan Harmsworth, Model Poultry Farm, Horsted Keynes, Sussex.
169 III.—F. W. N. Goddard, Sun Street, Hitchin, Herts.

Class 465.—*White Wyandotte Cocks.*

172 I.—Lord Dewar, Homestall Poultry Farm, East Grinstead.
180 II.—Joseph Lomax, Arnda Craig, Rainhill, Liverpool.
174 III.—T. P. Burwell, Orchards, Milton Bryan, Bletchley.
175 IV.—R. Anthony, Euxton, Chorley, Lancs.
171 R. N.—Miss M. V. Larkworthy, Cooper's Bridge, Liphook.
H. C.—176.

Class 466.—*White Wyandotte Hens.*

182 I. & 186 II.—Lord Dewar, Homestall Poultry Farm, East Grinstead.
183 III.—R. Anthony, Euxton, Chorley, Lancs.
188 R. N.—Joseph Lomax, Arnda Craig, Rainhill, Liverpool.

Class 467.—*White Wyandotte Cockerels.*

198 I. & 191 III.—Lord Dewar, Homestall Poultry Farm, East Grinstead.
194 II.—R. Anthony, Euxton, Chorley, Lancs.
199 IV.—George Blundell, Newstead, Catforth, Preston.
195 R. N.—F. Ford Topham, Alma Poultry Farm, Bishop Monkton, Harrogate.
H. C.—193, 196. C.—189, 190.

Class 468.—*White Wyandotte Pullets.*

210 I.—George Blundell, Newstead, Catforth, Preston.
206 II.—Miss M. V. Larkworthy, Cooper's Bridge, Liphook.
205 III.—Miss W. B. Young, 1 Oxford Street, Woodstock.
207 IV. & 201 V.—Lord Dewar, Homestall Poultry Farm, East Grinstead.
202 R. N.—F. Ford Topham, Alma Poultry Farm, Bishop Monkton, Harrogate.
H. C.—200, 203. C.—213.

Class 469.—*Gold or Silver Laced Wyandotte Cocks or Cockerels.*

214 I. & 217 II.—John Procter, Goosnargh Mills, Preston.
216 III.—R. Anthony, Euxton, Chorley, Lancs.
215 R. N.—A. Bee, Bulsnape Hall, Goosnargh, Preston.

Class 470.—*Gold or Silver Laced Wyandotte Hens or Pullets.*

218 I.—Miss E. T. Longe, Abbot's Hall, Stowmarket.
222 II.—John Procter, Goosnargh Mills, Preston.
219 III.—Lord Dewar, Homestall Poultry Farm, East Grinstead.
220 R. N.—Thomas Lockwood, The Woodlands, Pateley Bridge, Harrogate.
H. C.—223.

Class 471.—*Columbian Wyandotte Cocks.*

226 I. & R. N. for Cup.[1]—Lord Dewar, Homestall Poultry Farm, East Grinstead.
225 II.—W. Harris, Little Gables, Keynsham, Somerset.

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[1] The "Goddard" Visiting Cup given by the Columbian Wyandotte Club for the best Columbian Wyandotte and a Silver Spoon for the best Columbian Wyandotte of opposite sex.

231 III.—H. J. Sayer, Carshalton, Berengrave Lane, Rainham, Kent.
227 R. N.—J. Dickinson & Son, Vale House, Loose, Maidstone.
H. C.—232. C.—229.

Class 472.—*Columbian Wyandotte Hens.*

236 I. & Cup.[1]—Fred Brown, Woodside, Grimscar, Huddersfield.
237 II.—S. T. Read, 40 China Street, Bulwell, Nottingham.
233 III.—J. Dickinson & Son, Vale House, Loose, Maidstone.
234 R. N.—T. H. Sheldon, The Grove, Cropwell Butler, Nottingham.

Class 473.—*Columbian Wyandotte Cockerels.*

241 I.—R. Matterface, 121 South Street, Bridport.
244 II. & 240 R. N.—J. Dickinson & Son, Vale House, Loose, Maidstone.
245 III.—James R. Pearson, Woodlands Poultry Farm, Redcar.
H. C.—242. C.—246.

Class 474.—*Columbian Wyandotte Pullets.*

247 I. & 251 R. N.—S. T. Read, 40 China Street, Bulwell, Nottingham.
254 II.—R. Matterface, 121 South Street, Bridport.
253 III.—W. J. Stocks, Teesville, Herbert Road, Rainham, Kent.
252 IV.—J. Dickinson & Son, Vale House, Loose, Maidstone.
H. C.—250. C.—256.

Class 475.—*Wyandotte Cocks or Cockerels, any other colour.*

266 I.—J. G. Morten, Pentrich, Derby.
267 II.—R. Anthony, Euxton, Chorley, Lancs.
263 III.—Robert Bell, Wetheral, Carlisle.
261 IV.—R. P. Percival, Shuttington House, Tamworth.
264 V.—Arthur Ellett, Waterfall Poultry Farm, Southgate.
260 R. N.—Major G. T. Williams, Tredrea, Perranwell, Cornwall.
H. C.—258, 270. C.—262.

Class 476.—*Wyandotte Hens or Pullets, any other colour.*

276 I.—R. Anthony, Euxton, Chorley, Lancs.
272 II.—Gaybird, Ltd., Gaybird Pheasant Farm, Prestwood, Great Missenden.
273 III. & 271 R. N.—Walton Maughan, Ing Head House, Holmfirth, Yorks.

Class 477.—*Buff Orpington Cocks.*

282 I. & Special.—Lord Dewar, Homestall Poultry Farm, East Grinstead.
280 II.—R. Anthony, Euxton, Chorley, Lancs.
278 III. & 284 IV.—W. J. Golding, Bowens, Penshurst, Kent.
286 R. N.—William Cook & Sons, St. Mary Cray, Kent.
H. C.—285. C.—283.

Class 478.—*Buff Orpington Hens.*

289 I. & R. N. for Special.—R. Anthony, Euxton, Chorley, Lancs.
288 II.—W. J. Golding, Bowens, Penshurst, Kent.
290 III.—William Cook & Sons, St. Mary Cray, Kent.

Class 479.—*Black Orpington Cocks.*

299 I.—Col. H. Watts, O.B.E., Haslington Hall, Crewe.
294 II.—Cook's Poultry Farm, Ltd., Orpington, Kent.
292 III.—John Burdett, Low Farm, Redcar.
300 IV.—R. Anthony, Euxton, Chorley, Lancs.
296 R. N.—Miss N. Shanks, Stetchworth, Newmarket.
H. C.—298. C.—295.

Class 480.—*Black Orpington Hens.*

304 I.—Cook's Poultry Farm, Orpington, Kent.
302 II. & 308 III.—John Burdett, Low Farm, Redcar.
307 R. N.—R. Anthony, Euxton, Chorley, Lancs.
H. C.—301. C.—305.

Class 481.—*Orpington Cocks, any other colour.*

311 I.—Col. H. Watts, O.B.E., Haslington Hall, Crewe.
309 II.—Cook's Poultry Farm, Ltd., Orpington, Kent.
310 III.—J. D. Kay, Stetchworth, Newmarket.

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[1] The "Goddard" Visiting Cup given by the Columbian Wyandotte Club for the best Columbian Wyandotte, and a Silver Spoon for the best Columbian Wyandotte of opposite sex.

Class 482.—*Orpington Hens, any other colour.*

313 I.—Lord Dewar, Homestall Poultry Farm, East Grinstead.
312 II.—Cook's Poultry Farm, Ltd., Orpington, Kent.
314 III.—Col. H. Watts, O.B.E., Haslington Hall, Crewe.

Class 483.—*Orpington Cockerels, any colour.*

316 I.—Cook's Poultry Farm, Ltd.. Orpington, Kent.
318 II.—William Cook & Sons, St. Mary Cray, Kent.
317 III.—William Clayton, The Laurels, Sessay, Thirsk.

Class 484.—*Orpington Pullets, any colour.*

319 I.—Cook's Poultry Farm, Ltd., Orpington, Kent.
320 II.—W. J. Golding, Bowens, Penshurst, Kent.
321 III.—William Clayton, The Laurels, Sessay, Thirsk.

Class 485.—*Australorp Cocks or Cockerels.*

322 I. & 326 III.—Mrs. Mugeli, Marsden House, High Lane, Stockport.
324 II.—Mrs. A. M. Pape, Shrewton House, Shrewton, Wilts.
328 R. N.—Lady Burke, Henley Pedigree Utility Poultry Farm, Henley-on-Thames.
H. C.—329. C.—327.

Class 486.—*Australorp Hens or Pullets.*

339 I. & 333 III.—Mrs. Mugeli, Marsden House, High Lane, Stockport.
331 II.—Lord Dewar, Homestall Poultry Farm, East Grinstead.
335 IV.—Colin Campbell, The Willows Poultry Farm, Haxby, York.
330 R. N.—Mrs. A. M. Pape, Shrewton House, Shrewton, Wilts.
H. C.—337. C.—332.

Class 487.—*Double-Laced or Partridge Barnevelder Cocks or Cockerels.*

342 I.—Lord Dewar, Homestall Poultry Farm, East Grinstead.
351 II.—W. L. Trenholme, Grewelthorpe, Ripon.
343 III.—Lady Bromley-Wilson, Nabwood, Windermere.
346 IV.—Isaac Johnson, Harrogate Poultry Farm, Leeds Road, Harrogate.
341 V.—Mrs. Harold Bastow, Ray Lodge, Lingfield.
340 R. N.—L. Ardern, Grove, Landulph, Hatt, Cornwall.
H. C.—344, 347.

Class 488.—*Double-Laced Barnevelder Hens or Pullets.*

365 I.—Thos. Hodgson & Son, Redsholm Farm, Cotherstone, Darlington.
361 II. & 355 V.—Mrs. A. M. Pape, Shrewton House, Shrewton, Wilts.
364 III.—W. A. Slocock, Goldsworth Orchard, St. John's, Woking.
360 IV.—Mrs. Manwaring, Knole Paddock, Sevenoaks.
362 R. N.—Lady Bromley-Wilson, Nabwood, Windermere.
H. C.—363.

Class 489.—*Partridge Barnevelder Hens or Pullets.*

368 I. & 366 II.—Mrs. Manwaring, Knole Paddock, Sevenoaks.
367 III.—James Lilburn, Craigforth, Earlsferry, Elie, Fife.

Class 490.—*Black Barnevelder Cocks or Cockerels.*

371 I. & Special.—R. Fletcher Hearnshaw, Fox Hill, Burton Joyce, Nottingham.
369 II. & 372 III.—Walter C. Payne, The Chalet, Weston, Stevenage, Berks.
370 R. N.—Mrs. G. M. Soames, Long Buckby Wharf, Rugby.

Class 491.—*Black Barnevelder Hens or Pullets.*

376 I. & Special.—Walter C. Payne, The Chalet, Weston, Stevenage Berks.
374 II. & 378 III.—W. H. Dutton, The Villa, Hatherton, Nantwich.
375 R. N.—R. Fletcher Hearnshaw, Fox Hill, Burton Joyce, Nottingham.
H. C.—379.

Class 492.—*British Rhode Island Red Single Comb Cocks.*

386 I.—Frank Smith, Orchard Poultry Yards, Hessay, York.
382 II.—W. R. Abbey, Croft Farm, Hessay, York.
381 III. & 388 IV.—G. Exelby, 97 Poppleton Road, York.
380 V.—Richard Moore, Hammer House, Sutton Bridge, Wisbech.
390 R. N.—J. H. Baker & Son, Windyash, Barnstaple.
H. C.—385. C.—391.

Class 493.—*British Rhode Island Red Single Comb Hens.*

401 I.—W. R. Abbey, Croft Farm, Hessay, York.
404 II.—G. H. Muzzlewhite, Redlands, Tavistock.

407 III.—Mrs. Geoffrey Spencer, Reedley, Bexhill.
395 IV.—Frank H. Page, Woodlands, Great Horkesley, Colchester.
405 V.—H. E. Theobald, The Rosary, Stanway Green, Colchester.
400 R. N.—Richard Moore, Hammer House, Sutton Bridge, Wisbech.
H. C.—406. C.—397.

Class 494.—*British Rhode Island Red Single Comb Cockerels.*

417 I.—Capt. the Hon. C. K. Greenway, Stanbridge Earls Poultry Farm, Romsey, Hants.
418 II.—J. H. Baker & Son, Windyash, Barnstaple.
408 III. & 421 R. N.—W. R. Abbey, Croft Farm, Hessay, York.
424 IV.—Mrs. Christine Colbeck, Boyle Hall, West Ardsley, Yorks.
429 V.—Mrs. Geoffrey Spencer, Reedley, Bexhill.
H. C.—410. C.—411.

Class 495.—*British Rhode Island Red Single Comb Pullets.*

435 I. & 445 II.—Richard Moore, Hammer House, Sutton Bridge, Wisbech.
441 III.—G. Exelby, 97 Poppleton Road, York.
462 IV. & 452 V.—W. L. Trenholme, Grewelthorpe, Ripon.
455 R. N.—Mrs. Edwin Robson, Sutton House, Sutton, Hull.
H. C.—440. C.—453.

Class 496.—*British Rhode Island Red Rose Comb Cocks.*

464 I.—G. H. Muzzlewhite, Redlands, Tavistock.
463 II.—F. W. N. Goddard, Sun Street, Hitchin.
466 III.—Mrs. Geoffrey Spencer, Reedley, Bexhill.

Class 497.—*British Rhode Island Red Rose Comb Hens.*

469 I.—Mrs. Geoffrey Spencer, Reedley, Bexhill.
467 II.—G. H. Muzzlewhite, Redlands, Tavistock.

Class 498.—*British Rhode Island Red Rose Comb Cockerels.*

472 I.—G. H. Muzzlewhite, Redlands, Tavistock.
471 II.—Mrs. Christine Colbeck, Boyle Hall, West Ardsley, Yorks.
473 III.—Mrs. Geoffrey Spencer, Reedley, Bexhill.

Class 499.—*British Rhode Island Red Rose Comb Pullets.*

478 I. & 476 II.—Mrs. Geoffrey Spencer, Reedley, Bexhill.
474 III.—Mrs. Christine Colbeck, Boyle Hall, West Ardsley, Yorks.
475 R. N.—H. T. Holland, Poultry Farm, Crofts Avenue, Bromborough, Cheshire.
H. C.—477.

Class 500.—*Barred Plymouth Rock Cocks.*

481 I.—John Taylor, Heath Farm, Tiptree, Essex.
480 II. & 484 R. N.—James Bateman, Milnthorpe.
479 III. & 483 IV.—Capt. A. G. Miller, Hurstside Poultry Farm, West Molesey, Surrey.
H. C.—488. C.—486.

Class 501.—*Barred Plymouth Rock Hens.*

490 I.—Capt. A. G. Miller, Hurstside Poultry Farm, West Molesey, Surrey.
495 II.—R. Anthony, Euxton, Chorley, Lancs.
498 III.—W. W. W. Butt, Eastfield Poultry Farm, North Thoresby, Lincs.
489 IV.—H. Duffield, Market Weighton, Yorks.
492 R. N.—E. B. Richardson, Castle Villa, Helton, Penrith.

Class 502.—*Barred Plymouth Rock Cockerels.*

502 I.—Capt. A. G. Miller, Hurstside Poultry Farm, West Molesey, Surrey.
500 II.—T. A. Dennison, 2 Back Lane, Kirkby Lonsdale.

Class 503.—*Barred Plymouth Rock Pullets.*

508 I.—Capt. A. G. Miller, Hurstside Poultry Farm, West Molesey, Surrey.
509 II.—W. W. W. Butt, Eastfield Poultry Farm, North Thoresby, Lincs.
507 III.—Richard Major, Kirkby Lonsdale.
505 R. N.—F. S. Williams, Grovelly Lane, Northfield, Birmingham.
C.—504.

Class 504.—*Buff Plymouth Rock Cocks or Cockerels.*

516 I.—John Taylor, Heath Farm, Tiptree, Essex.
514 II.—W. W. W. Butt, Eastfield Poultry Farm, North Thoresby, Lincs.
512 III.—A. C. Tattersall, Watlingford, Altrincham.
513 IV.—William Rhead, Merlewood, Beggars Lane, Leek.
518 R. N.—H. O. Clarke, 20 St. Luke's Avenue, Maidstone.
H. C.—510, 517. C.—515.

Class 505.—*Buff Plymouth Rock Hens or Pullets.*

525 I.—JAMES BATEMAN, Milnthorpe.
523 II.—A. C. TATTERSALL, Watlingford, Altrincham.
522 III.—R. ANTHONY, Euxton, Chorley, Lancs.
524 IV.—BILSBOROUGH & BLAND, Park Lane Poultry Farm, Forton, Garstang.
526 V. & 532 R. N.—R. C. S. WADE, Moorhead Kennels, Bishop Thornton, Harrogate.
H. C.—531.

Class 506.—*Plymouth Rock Cocks or Cockerels, any other colour.*

541 I.—W. W. W. BUTT, Eastfield Poultry Farm, North Thoresby, Lincs.
536 II.—C. H. DENT, Park Avenue, Windermere.
534 III.—JOHN TAYLOR, Heath Farm, Tiptree, Essex.
538 R. N.—A. HAYMAN, Poole, Wellington, Somerset.
H. C.—539. C.—535.

Class 507.—*Plymouth Rock Hens or Pullets, any other colour.*

542 I.—T. WHITE, High Street, Helmsley, York.
546 II.—R. ANTHONY, Euxton, Chorley, Lancs.
545 III.—W. W. W. BUTT, Eastfield Poultry Farm, North Thoresby, Lincs.
543 R. N.—A. HAYMAN, Poole, Wellington, Somerset.

Class 508.—*Old English Game Black-Red Cocks or Cockerels.*

551 I.—LORD DEWAR, Homestall Poultry Farm, East Grinstead.
549 II.—MILES MELLOR, Hassocks, Honley, Huddersfield.
550 III.—STAN. BUTLER, 16 Blaencuffin Road, Llanhilleth, Mon.
547 R. N.—J. R. CROMPTON, Banstead, Surrey.
H. C.—552.

Class 509.—*Old English Game Clay or Wheaten Hens or Pullets.*

562 I.—WILLIAM TELFORD, Breconside, Brampton.
555 II.—FRANK FOZZARD, 58 Heywood Street, Bury, Lancs.
556 III.—R. S. MARSDEN, Chatburn, Clitheroe.
561 R. N.—THOMAS RIGG, Buckman Brow, Broughton-in-Furness.
H. C.—557. C.—560.

Class 510.—*Old English Game Cocks or Cockerels, any other colour.*

571 I.—J. H. BAKER & SON, Windyash, Barnstaple.
564 II.—GEORGE P. ISHERWOOD, Ravensdale, High Halden, Ashford, Kent.
563 III.—EDWARD M. ROWELL, Bury, Huntingdon.
568 IV.—A. J. MAJOR, Ditton, Langley, Bucks.
576 V.—JOHN T. DODD, Riccarton, Newcastleton, Scotland.
565 R. N.—J. R. CROMPTON, Banstead, Surrey.
H. C.—570. C.—574.

Class 511.—*Old English Game Hens or Pullets, any other colour.*

578 I.—WILLIAM TELFORD, Breconside, Brampton.
582 II.—E. WELLS, Boundary Bank, Kendal.
584 III.—T. & J. GARNER, Abbey Town, Carlisle.
579 IV.—STAN. BUTLER, 16 Blaencuffin Road, Llanhilleth, Mon.
586 R. N.—A. SLATER, The Old Vicarage, Lythe, Whitby.
H. C.—580.

Class 512.—*Indian Game Cocks or Cockerels.*

587 I.—J. H. BAKER & SON, Windyash, Barnstaple.
591 II.—CECIL BRENT, Clampit, Callington, Cornwall.
590 III.—MISS W. B. YOUNG, 1 Oxford Street, Woodstock.
592 IV.—MILES MELLOR, Hassocks, Honley, Huddersfield.
588 R. N.—L. ARDERN, Grove, Landulph, Hatt, Cornwall.
H. C.—595. C.—594.

Class 513.—*Indian Game Hens or Pullets.*

600 I.—MISS W. B. YOUNG, 1 Oxford Street, Woodstock.
601 II.—MILES MELLOR, Hassocks, Honley, Huddersfield.
599 III.—L. ARDERN, Grove, Landulph, Hatt, Cornwall.
606 IV.—W. G. BRENT, Warrens Park, Congdon Shop, Launceston.
607 V.—J. H. BAKER & SON, Windyash, Barnstaple.
604 R. N.—LANGMAN BEVAN, Langham Lodge, Epping, Essex.
H. C.—598. C.—605.

Class 514.—*Minorca Cocks or Cockerels.*

610 I.—LORD DEWAR, Homestall Poultry Farm, East Grinstead.
611 II.—S. E. PARKER, 466 Bloxwich Road, Leamore, Walsall.
609 III.—WILLIAM J. SEWELL, Gateletts, Culgaith, Penrith.

Class 515.—*Minorca Hens or Pullets.*

613 I.—Lord Dewar, Homestall Poultry Farm, East Grinstead.
612 II.—William J. Sewell, Gatcletts, Culgaith, Penrith.
614 III.—Mrs. Mugeli, Marsden House, High Lane, Stockport.

Class 516.—*White Leghorn Cocks or Cockerels.*

617 I.—Lord Dewar, Homestall Poultry Farm, East Grinstead.
618 II.—Colin Campbell, The Willows Poultry Farm, Haxby, York.
615 III.—R. Anthony, Euxton, Chorley, Lancs.
616 R. N.—A. H. Shaw, Great Ouseburn, York.

Class 517.—*White Leghorn Hens or Pullets.*

621 I.—Lord Dewar, Homestall Poultry Farm, East Grinstead.
619 II.—R. Anthony, Euxton, Chorley, Lancs.
620 III.—George Robinson, 16 Stobart Terrace, Fishburn, Stockton-on-Tees.
622 R. N.—R. W. Keen, Castle Eden, Co. Durham.
H. C.—623.

Class 518.—*Leghorn Cocks or Cockerels, any other colour.*

627 I.—Lord Dewar, Homestall Poultry Farm, East Grinstead.
629 II.—R. Anthony, Euxton, Chorley, Lancs.
625 III.—L. Timson, The Bungalow, Burton Latimer, Kettering.
626 R. N.—W. E. Gilling, Court Farm, Buckland, Frome.
H. C.—628. C.—624.

Class 519.—*Leghorn Hens or Pullets, any other colour.*

633 I.—R. Anthony, Euxton, Chorley, Lancs.
632 II.—Lord Dewar, Homestall Poultry Farm, East Grinstead.
631 III.—Mrs. Frank Bunker, Boarscroft, Long Marston, Tring.
635 R. N.—John C. Dixon, Cedar House, Greenfield Lane, Balby, Doncaster.
H. C.—630. C.—634.

Class 520.—*British Black Leghorn Cocks or Cockerels.*

637 I. & Special.—Lord Dewar, Homestall Poultry Farm, East Grinstead.
638 II.—John Robert Leak, Hogley Poultry Farm, Holmfirth, Huddersfield.
639 III.—B. Birkhead, White Houses Poultry Farm, Bexley Heath.

Class 521.—*British Black Leghorn Hens or Pullets.*

641 I. & Spoon.—Lord Dewar, Homestall Poultry Farm, East Grinstead.
640 II.—W. J. V. Searle, 9 Walton Road, East Molesey, Surrey.
642 III.—B. Birkhead, White Houses Poultry Farm, Bexley Heath.

Class 522.—*Ancona Cocks or Cockerels.*

650 I.—J. H. Baker & Son, Windyash, Barnstaple.
647 II.—H. S. Davies, Highbury, Llandilo.
648 III.—R. Anthony, Euxton, Chorley, Lancs.
646 IV.—William Nelson, Jumble Hall Bar, Baxenden, Accrington.
644 R. N.—George Goodall, Christleton, Chester.
H. C.—643. C.—651.

Class 523.—*Ancona Hens or Pullets.*

659 I. & 653 II.—R. Anthony, Euxton, Chorley, Lancs.
654 III.—Gerald Gill, Nowengreen, Hythe, Kent.
656 IV.—Frederick Scott, West Garth, Arnside, Westmorland.
652 R. N.—George Goodall, Christleton, Chester.
H. C.—655. C.—657.

Class 524.—*Campine Cocks or Cockerels.*

662 I. & R. N. for Special.—W. A. Slocock, Goldsworth Orchard, St. John's, Woking.
663 II.—R. Anthony, Euxton, Chorley, Lancs.
661 III.—Mrs. A. M. Pape, Shrewton House, Shrewton, Wilts.

Class 525.—*Campine Hens or Pullets.*

668 I. & Special.—R. Anthony, Euxton, Chorley, Lancs.
665 II. & 669 R. N.—W. A. Slocock, Goldsworth Orchard, St. John's, Woking.
666 III.—Mrs. A. M. Pape, Shrewton House, Shrewton, Wilts.
H. C.—667.

Class 526.—*Bresse Cocks or Cockerels.*

676 I.—Fred W. Barker, The Grange, Menston, Leeds.
675 II. & 671 R. N.—Ernest Stevens, 55 The Oval, Godalming.
673 III.—Mrs. A. M. Pape, Shrewton House, Shrewton, Wilts.
H. C.—674. C.—677.

Class 527.—*Bresse Hens or Pullets.*

686 I.—Fred W. Barker, The Grange, Menston, Leeds.
683 II.—Lady Burke, Henley Pedigree Utility Poultry Farm, Henley-on-Thames.
684 III.—Mrs. A. M. Pape, Shrewton House, Shrewton, Wilts.
685 IV.—Ernest Stevens, 55 The Oval, Godalming.
682 R. N.—R. S. Marsden, Chatham, Chitheroe.
H. C.—681. C.—680.

Class 528.—*Sicilian Buttercup Cocks or Cockerels.*

688 I. & 690 III.—F. E. Derham, The Old Hall, Hilton, Derby.
689 II.—Mrs. Christine Colbeck, Boyle Hall, West Ardsley, Yorks.

Class 529.—*Sicilian Buttercup Hens or Pullets.*

692 I.—Ernest Stevens, 55 The Oval, Godalming.
691 II. & 693 III.—F. E. Derham, The Old Hall, Hilton, Derby.

Class 530.—*Cocks, any other distinct variety, Bantams excepted.*

696 I.—R. Fletcher Hearnshaw, Fox Hill, Burton Joyce, Nottingham. Scots Grey.
706 II.—H. Hough-Watson, Braystones House, Beckermet, Cumberland. Polish.
697 III.—John W. Crossley, Brian Royd, Greetland, Halifax. Modern Game.
705 IV.—J. H. Baker & Son, Windyash, Barnstaple. Jubilee Game.
695 V.—Lord Dewar, Homestall Poultry Farm, East Grinstead. Hamburgh.
704 R. N.—R. Anthony, Euxton, Chorley, Lancs. Hamburgh.
H. C.—699. C.—701.

Class 531.—*Cockerels, any other distinct variety, Bantams excepted.*

711 I.—J. H. Baker & Son, Windyash, Barnstaple. Jubilee Game.
709 II.—Major G. T. Williams, Tredrea, Perranwell, Cornwall. Frizzle.
710 III.—H. Hough-Watson, Braystones House, Beckermet, Cumberland. Polish.
708 R. N.—Thomas Hoyle, Savile Royd, Halifax. Hamburgh.

Class 532.—*Hens, any other distinct variety, Bantams excepted.*

717 I.—Abbot Bros., Thuxton, Norfolk. Andalusian.
724 II.—J. H. Baker & Son, Windyash, Barnstaple. Malay.
719 III.—Joseph Pickerill, Moorside, Madeley, Crewe. Modern Langshan.
713 IV.—Mrs. H. E. Jerome, Pittern Hill House, Kineton, Warwickshire. Old English Game Fowl.
723 V.—H. Hough-Watson, Braystones House, Beckermet, Cumberland. Polish.
716 R. N.—R. Fletcher Hearnshaw, Fox Hill, Burton Joyce, Nottingham. Scots Grey
H. C.—720.

Class 533.—*Pullets, any other distinct variety, Bantams excepted.*

727 I.—J. H. Baker & Son, Windyash, Barnstaple. Jubilee Game.
730 II.—H. Hough-Watson, Braystones House, Beckermet, Cumberland. Polish.
728 III.—Major G. T. Williams, Tredrea, Perranwell, Cornwall. Frizzle.
729 R. N.—Harry Fortune, Banklands, Silsden, Keighley. Hamburgh.
H. C.—726.

Class 534.—*Utility Poultry. White Wyandotte Cocks or Cockerels.*

733 I.—R. Anthony, Euxton, Chorley, Lancs.
737 II.—Lord Dewar, Homestall Poultry Farm, East Grinstead.
731 III.—C. N. Goode, The Croft, Bedford Road, Rushden, Northants.
H. C.—735. C.—739.

Class 535.—*Utility Poultry. White Wyandotte Hens or Pullets.*

746 I.—Lord Dewar, Homestall Poultry Farm, East Grinstead.
744 II.—John George Bell, Ivegill Poultry Farm, Southwaite, Carlisle.
749 III.—Eveline W. Jenkins, Great Barton, Bury St. Edmunds.
H. C.—750.

Class 536.—*Utility Poultry. White Leghorn Cocks or Cockerels.*

763 I.—R. Anthony, Euxton, Chorley, Lancs.
760 II.—Colin Campbell, The Willows Poultry Farm, Haxby, York.
768 III.—Francis D. Watson, Croftsbank, Thornton Hough, Wirrall, Cheshire.
H. C.—767.

Class 537.—*Utility Poultry. White Leghorn Hens or Pullets.*

773 I.—Lord Dewar, Homestall Poultry Farm, East Grinstead.
778 II.—Francis D. Watson, Croftsbank, Thornton Hough, Wirral, Cheshire.

777 III.—Lord Barnby, Blyth, Notts.
770 IV.—Richard T. Cusworth, Cragg Poultry Farm, High Eldwick, Bingley.
H. C.—769.

Class 538.—*Utility Poultry. British Rhode Island Red Cocks or Cockerels.*

789 I.—Richard Moore, Hammer House, Sutton Bridge, Wisbech.
782 II.—G. Exelby, 97 Poppleton Road, York.
788 III.—John Robert Leak, Hogley Poultry Farm, Holmfirth, Huddersfield.
784 IV.—Miss W. B. Young, 1 Oxford Street, Woodstock.
785 R. N.—Thomas Atkinson, Croft Poultry Farm, Burton-in-Lonsdale, Carnforth.
H. C.—790.

Class 539.—*Utility Poultry. British Rhode Island Red Hens or Pullets.*

802 I.—Vyvyan Harmsworth, Model Poultry Farm, Horsted Keynes, Sussex.
800 II.—Miss M. V. Larkworthy, Cooper's Bridge, Liphook.
797 III. & 805 IV.—Mrs. Geoffrey Spencer, Reedley, Bexhill.
793 V.—Capt. the Hon. C. K. Greenway, Stanbridge Earls Poultry Farm, Romsey, Hants.
H. C.—795.

Class 540.—*Utility Poultry. Sussex Cocks or Cockerels, any colour.*

809 I.—L. Ardern, Grove, Landulph, Hatt, Cornwall.
818 II.—Mrs. M. A. Grant, Kirby Hall, Horton Kirby, Kent.
820 III.—J. H. Baker & Son, Windyash, Barnstaple.
815 IV.—Miss W. B. Young, 1 Oxford Street, Woodstock.
807 V.—W. R. Younger, Auchen Castle, Moffat.

Class 541.—*Utility Poultry. Sussex Hens or Pullets, any colour.*

839 I. & 828 III.—Mrs. M. A. Grant, Kirby Hall, Horton Kirby, Kent.
837 II. & 827 IV.—J. E. Atherton, Kingcott Farm, Flax Bourton, Somerset.
824 V.—L. Ardern, Grove, Landulph, Hatt, Cornwall.
H. C.—826. C.—830, 838.

Class 542.—*Utility Poultry. Cocks or Cockerels, any other variety.*

843 I.—Harry Fortune, Banklands, Silsden, Keighley. Hamburgh.
846 II.—Lord Dewar, Homestall Poultry Farm, East Grinstead. Buff Orpington.
842 III.—Lady Burke, Henley Pedigree Utility Poultry Farm, Henley-on-Thames. Australorp.
H. C.—848. C.—845.

Class 543.—*Utility Poultry. Hens or Pullets, any other variety.*

858 I.—R. Anthony, Euxton, Chorley, Lancs. Ancona.
855 II. & 849 IV.—Lady Burke, Henley Pedigree Utility Poultry Farm, Henley-on-Thames. Australorps.
862 III.—Thos. Hodgson & Son, Redsholm Farm, Cotherstone, Darlington. Barnevelder.
851 V.—Lord Dewar, Homestall Poultry Farm, East Grinstead. Minorca.
H. C.—857, 860. C.—859.

Class 544.—*Aylesbury Drakes or Ducks.*

864 I.—James Huntly & Son, Hirsel Poultry Farm, Coldstream.
866 II. & 863 R. N.—J. Y. Wheatley, Prospect House, Appleton Roebuck, York.
865 III.—The Rev. J. Hewetson, Burbage Vicarage, Buxton.

Class 545.—*Rouen Drakes or Ducks.*

871 I. & 868 III.—R. Anthony, Euxton, Chorley, Lancs.
872 II.—Ralph Alty, Mill House, Croston, Preston.
867 R. N.—S. Spinke, Park Farm, Stowting, Ashford, Kent.
H. C.—870.

Class 546.—*Fawn Indian Runner Drakes or Ducks, bred prior to* 1929.

874 I. & 877 II.—The Rev. J. Hewetson, Burbage Vicarage, Buxton.
875 III.—W. G. Brent, Warrens Park, Congdon Shop, Launceston.
876 R. N.—Ralph Alty, Mill House, Croston, Preston.
H. C.—878.

Class 547.—*Fawn Indian Runner Drakes or Ducks, bred in* 1929.

881 I.—Reginald Appleyard, Ixworth, Bury St. Edmunds.
879 II.—W. J. Hewitt, Woodbine, Littlethorpe, Ripon.
880 III. & 882 R. N.—The Rev. J. Hewetson, Burbage Vicarage, Buxton.
H. C.—883.

Class 548.—*White Indian Runner Drakes or Ducks, bred prior to* 1929.

884 I. & 889 III.—Colin Campbell, The Willows Poultry Farm, Haxby, York.
888 II.—The Rev. J. Hewetson, Burbage Vicarage, Buxton.
887 R. N.—Reginald Appleyard, Ixworth, Bury St. Edmunds.
H. C.—885.

Class 549.—*White Indian Runner Drakes or Ducks, bred in* 1929.

894 I.—W. J. Hewitt, Woodbine, Littlethorpe, Ripon.
896 II.—Colin Campbell, The Willows Poultry Farm, Haxby, York.
891 III. & 895 R. N.—The Rev. J. Hewetson, Burbage Vicarage, Buxton.
H. C.—892.

Class 550.—*Indian Runner Drakes or Ducks, any other colour, bred prior to* 1929.

897 II.—Reginald Appleyard, Ixworth, Bury St. Edmunds.

Class 551.—*Indian Runner Drakes or Ducks, any other colour, bred in* 1929.

898 II.—Reginald Appleyard, Ixworth, Bury St. Edmunds.

Class 552.—*Buff Orpington Drakes or Ducks, bred prior to* 1929.

899 II.—Lieut.-Col. G. R. B. Patten, Brockhurst, The Mount, Shrewsbury.

Class 553.—*Buff Orpington Drakes or Ducks, bred in* 1929.

900 II.—Lieut.-Col. G. R. B. Patten, Brockhurst, The Mount, Shrewsbury.

Class 554.—*Magpie Drakes.*

902 I. & Special, & 904 II.—R. Barker, Lodge Poultry Farm, High Street, Long Eaton, Nottingham.
903 III.—Capt. the Hon. G. K. Greenway, Stanbridge Earls Poultry Farm, Romsey, Hants.
906 R. N.—C. N. Goode, The Croft, Bedford Road, Rushden, Northants.
H. C.—905.

Class 555.—*Magpie Ducks.*

908 I. & Special, & 910 II.—R. Barker, Lodge Poultry Farm, High Street, Long Eaton, Nottingham.
907 III. & 911 R. N.—Capt. the Hon. C. K. Greenway, Stanbridge Earls Poultry Farm, Romsey, Hants.
H. C.—909.

Class 556.—*Drakes, any other variety.*

914 I.—Abbot Bros., Thuxton, Norfolk. Muscovy.
918 II.—G. Clapham, Bowbrook, Shrewsbury. Muscovy.
913 III.—Reginald Appleyard, Ixworth, Bury St. Edmunds. White Call.
917 R. N.—Gaybird, Ltd., Gaybird Pheasant Farm, Prestwood, Great Missenden, Bucks. White Call.
H. C.—916.

Class 557.—*Ducks, any other variety.*

921 I.—G. Clapham, Bowbrook, Shrewsbury. Muscovy.
919 II.—Abbot Bros., Thuxton, Norfolk. Muscovy.
920 III.—Capt. the Hon. C. K. Greenway, Stanbridge Earls Poultry Farm, Romsey, Hants. Stanbridge White.

Class 558.—*Embden Ganders or Geese.*

924 I. & 926 II.—Abbot Bros., Thuxton, Norfolk.
023 III.—Reginald Appleyard, Ixworth, Bury St. Edmunds.
022 R. N.—Durrant Ives, The Grange, Erpingham, Norwich.
H. C.—925.

Class 559.—*Toulouse Ganders or Geese.*

930 I. & 933 R. N.—J. Y. Wheatley, Prospect House, Appleton Roebuck, York.
229 II. & 932 III.—Abbot Bros., Thuxton, Norfolk.
H. C.—928.

Class 560.—*Turkey Cocks.*

938 I.—Durrant Ives, The Grange, Erpingham, Norwich.
939 II.—Hubert Partridge, Manor Farm, Cassington, Oxford.
935 III.—Abbot Bros., Thuxton, Norfolk.
937 R. N.—Fred Saunders, Green Farm, Great Finborough, Stowmarket.
H. C.—934, 936.

Class 561.—*Turkey Hens.*

940 I.—E. C. Secker, Highfield, Dereham, Norfolk.
941 II. & 943 III.—Abbot Bros., Thuxton, Norfolk.
942 R. N.—Hubert Partridge, Manor Farm, Cassington, Oxford.

BUTTER-MAKING COMPETITION.

Class 1.—*Open to those who were registered students in attendance at a course at the Garforth Dairy School or at a County Class organised by the Yorkshire Council for Agricultural Education, and who have not won a First or Second Prize at the Yorkshire Show.*

19 I. (£4.)—Miss E. Wellock, Aire Bridge, Bell Busk, Leeds.
16 II. (£3.)—Miss Lily Robinson, Low Farm, Kingthorpe, Pickering.
18 III. (£2.)—Miss Maggie Smith, Whinny Mire, Clapham, Lancaster.
5 IV. (£1.)—Miss Beatrice Jennie Brown, Thornton Hall, Ingleton, Carnforth.
12 R. N.—Mrs. F. Newbould, The New Inn Farm, Appletreewick, Skipton.
H. C.—1, 3, 8, 13, 17. C.—2, 6, 15.

Class 2.—*Open to students who have received not less than one month's instruction at any Dairy School, and who have not won a First or Second Prize at the London Dairy, Bath and West, Royal Counties, Royal Lancashire, or Yorkshire Shows.*

31 I. (£4.)—Miss A. A. Shearman, Midland Agricultural and Dairy College, Sutton Bonington, Loughborough.
32 II. (£3.)—Miss L. M. Stanger, Midland Agricultural and Dairy College, Sutton Bonington, Loughborough.
34 III. (£2.)—Miss Betty Turtle, The Cottage, Studley, Warwickshire.
28 IV. (£1.)—Miss Mary S. Orton, Midland Agricultural and Dairy College, Sutton Bonington, Loughborough.
26 R. N.—Miss Vera Lee, Hett Moor, Ferry Hill, Co. Durham.
H. C.—27, 30, 33. C.—29, 35.

Class 3.—*Open, except to Champions at the London Dairy, Bath and West, Royal Counties, Royal Lancashire, and Yorkshire Shows.*

37 I. (£5.)—Miss L. Cecilia Ball, Lancashire County Council Farm, Hutton, Preston.
53 II. (£4.)—Miss A. A. Shearman, Midland Agricultural and Dairy College, Sutton Bonington, Loughborough.
41 III. (£3.)—Mrs. R. J. Dunstan, Porloe, Mylor, Falmouth.
51 IV. (£2.)—Miss Jessie M. Seldon, Manheirs-Creech, Grampound, Cornwall.
44 V. (£1.)—Miss Evelyn Holloway, Sevington, Acton Beauchamp, Worcester.
54 R. N.—Miss L. M. Stanger, Midland Agricultural and Dairy College, Sutton Bonington, Loughborough.
H. C.—46, 50. C.—45.

Class 4.—*Championship, open to First and Second Prize Winners in the preceding Classes, and to First Prize Winners at the London Dairy, Bath and West, or any County Show.*

59 I. (£5, & Gold Medal.)—Mrs. R. J. Dunstan, Porloe, Mylor, Falmouth.
70 II. (£4.)—Mrs. Cissie Yates, The Venn, Abewbury, Bromyard.
81 III. (£3.)—Miss A. A. Shearman, Midland Agricultural and Dairy College, Sutton Bonington, Loughborough.
65 IV. (£2.)—Miss Emily Parry, Mitchell, Ledbury.
62 V. (£1.)—Miss Evelyn Holloway, Sevington, Acton Beauchamp, Worcester.
37 R. N.—Miss L. Cecilia Ball, Lancashire County Council Farm, Hutton, Preston.
H. C.—61, 66. C.—68.

FLOWER SHOW.

Class 1.—*Groups of Miscellaneous Plants.*

1 I. (£45.)—James Cypher & Sons, Queen's Road Nurseries, Cheltenham.
2 II. (£40.)—T. M. Petch, Highfield Nurseries, Great Horton, Bradford.

Class 2.—*Two Dozen Bunches of Gladiolus Primulinus.*

[No Entry.]

Class 3.—*Collections of Delphiniums.*

3 I. (£6, & Award of Merit.)—Blackmore & Langdon, Bath.

Class 4.—*Groups of Tuberous Begonias in pots.*

4 I. (£30.)—Blackmore & Langdon, Bath.

Class 5.—*Groups of Aquatic Plants.*

7 **I. (£15.)**—Maurice Prichard & Sons, Ltd., Riverslea Nursery, Christchurch, Hants.
6 **II. (£10.)**—P. Gardner, Craven Nurseries, Addingham, Yorks.
5 **III. (£5.)**—Bowell & Skarratt, Hardy Plant Nurseries, Cheltenham.

Class 6.—*Collections of Hardy Perennial Plants and Cut Blooms.*

8 **I. (£30.)**—Bees, Ltd., Sealand Nurseries, Chester.
10 **II. (£25.)**—Harkness & Sons, Leeming Bar, Yorks.
9 **III. (£20.)**—Gayborder Nurseries, Melbourne, Derby.

Class 7.—*Collections of Lupins.*

12 **I. (£15.)**—Harkness & Sons, Leeming Bar, Yorks.
14 **II. (£10.)**—J. F. Rashley & Co., Throstle Nest Nursery, Mytholmroyd, Yorks.

Class 8.—*Collections of Tree Carnations.*

15 **I. (£15, Cup & Award of Merit.**[1]**)**—C. Engelmann, Ltd., Saffron Walden.

Class 9.—*Collections of Cut Sprays of Tree Carnations.*

16 **I. (£15, & Award of Merit.)**—Stuart Low & Co., Bush Hill Park, Enfield.

Class 10.—*Collections of Cut Sprays of Border Carnations.*

18 **I. (£15.)**—Horace Lakeman, Queensberry Nursery, Thornton Heath, Surrey.

Class 11.—*Collections of Sweet Peas.*

19 **I. (£15.)**—Robert Bolton & Son, Birdbrook, Halstead, Essex.
20 **III. (£5.)**—Alfred W. Whitelock, Wetherby Lane, Harrogate.

Class 12.—*Collections of Cut Roses.*

26 **I. (£15.)**—Wheatcroft Bros., The Nurseries, Gedling, Nottingham.
22 **II. (£10.)**—Charles Gregory, Chilwell, Notts.
24 **III. (£7.)**—William Lowe & Son, The Nurseries, Beeston, Notts.
27 **IV. (£5.)**—Wood & Ingram, The Old Nurseries, Huntingdon.

Exhibits not for Competition.

Large Gold Medals to :—

Allwood Bros., Wivelsfield Nurseries, Haywards Heath. Carnations.
Backhouse Nurseries (York) Ltd., The Nurseries, York. Rock Garden.
S. Broadhead & Son, Ltd., Wooldale Nurseries, Thongsbridge, Huddersfield. Rock Garden.
Alex. Dickson & Sons, Ltd.,[2] Howlmark, Newtownards, Ireland. Roses and Sweet Peas.
Kent & Brydon, Ltd., Darlington. Formal Garden.
Horace Lakeman, Queensberry Nursery, Thornton Heath, Surrey. Cut Border Carnations.
Studley College, Studley, Warwickshire. Fruit and Vegetables.
Sutton & Sons, Reading. Sweet Peas.

Gold Medals to :—

Bees, Ltd., Sealand Nurseries, Chester. Delphiniums.
Robert Bolton & Son, Birdbrook, Halstead, Essex. Sweet Peas.
W. & J. Brown, Rose Nurseries, Eastfield, Peterborough. Roses.
Benjamin R. Cant & Sons, Ltd., The Old Rose Gardens, Colchester. Roses.
Conways, Ltd., Halifax. Old English Garden and Rockery.
John Forbes (Hawick) Ltd., Buccleuch Nurseries, Hawick. Phloxes, Pentstemons, Violas, etc.
Kings Acre Nurseries,[3] Hereford. Fruit Trees in pots.
Manswell & Hatcher, Rawdon, Leeds. Orchids.
Maurice Prichard & Sons, Ltd., Riverslea Nursery, Christchurch, Hants. Alpine Plants.
Thomas Robinson, Porchester Nurseries, Nottingham. Group of Roses.

Silver Gilt Medals to :—

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Bakers, The Nurseries, Codsall, Wolverhampton. Delphiniums and other Hardy Flowers.
Frank Cant & Co., Ltd., Braiswick Rose Nurseries, Colchester. Roses.
Harrogate and District Horticultural Association, 8 Roper Road, Harrogate. Flowers and Vegetables.
Hewitt & Co., Ltd., The Nurseries, Solihull, Warwickshire. Delphiniums and Choice Herbaceous Flowers.

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[1] Perpetual Challenge Cup, awarded to the First Prize Winner in Class 8.
[2] Also granted an Award of Merit.
[3] Also granted a Certificate of Merit for cultivation.

KELWAY & SON, Langport, Somerset. Cut Flowers of Hardy Plants.
LAXTON BROS.,[1] Bedford. Roses and Strawberries.
STUART LOW & CO., Bush Hill Park, Enfield. Orchids and Malmaison Carnations.
GEORGE MARRIOTT, Eastmoor House, Carlton, Nottingham. Roses.
WHITAKER & WILSON, Riverside Nurseries, Collingham, near Leeds. Sweet Peas.

Silver Medals to:—

G. GIBSON & CO., The Nurseries, Leeming Bar, Yorks. Hardy Plants, Shrubs, and Cut Flowers.
JARMAN & CO., Chard, Somerset. Cut Flowers.
WILLIAM LOWE & SON, The Nurseries, Beeston, Notts. Delphiniums and Hardy Flowers.
MAXWELL & BEALE, The Dorset Nursery, Broadstone, Dorset. Heathers and Rock Garden.
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[1] Also granted an Award of Merit.

IMPLEMENTS.

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